velleman® Inc.

CATALOG 2005 - 2006

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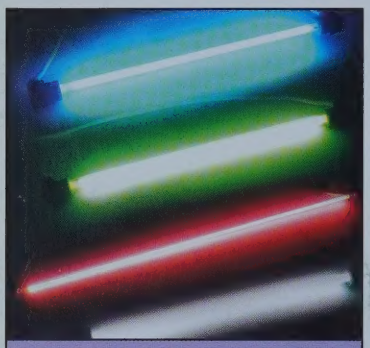
04

A ▸ VELLEMAN KITS & OSCILLOSCOPES

B ▸ HIGH-Q TOOLS & DMM'S

C ▸ ADAPTERS & POWER SUPPLIES

D ▸ SECURITY PRODUCTS



E ▸ LIGHT PRODUCTS

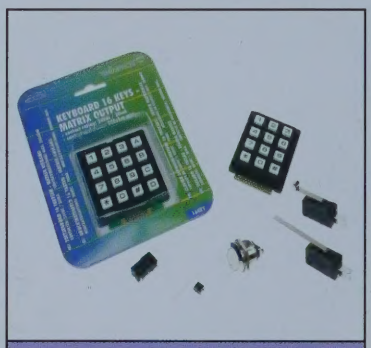
F ▸ LOUDSPEAKERS & PA SYSTEMS

G ▸ CONSUMER PRODUCTS & PC ACC.

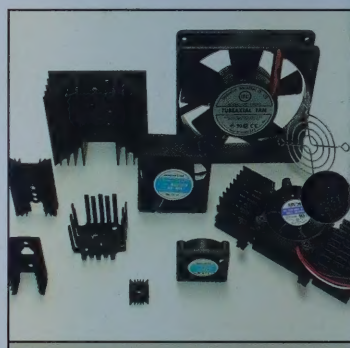
H ▸ BUZZERS & SIRENS

I ▸ CABLES & ACCESSORIES

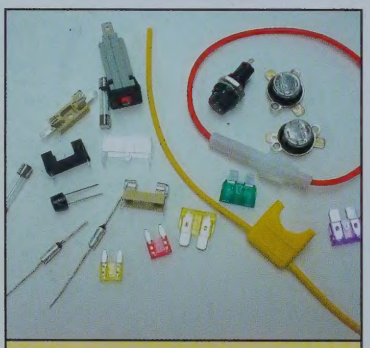
J ▸ CONNECTORS



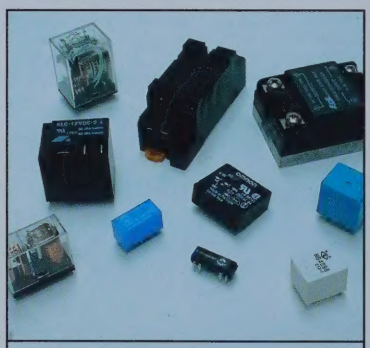
K ▸ SWITCHES



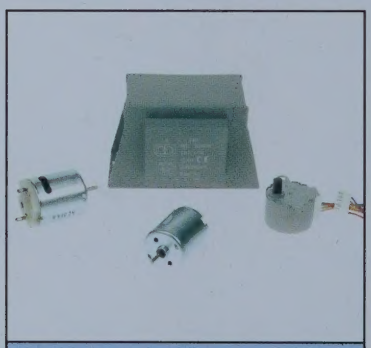
L ▸ FANS & HEATSINKS



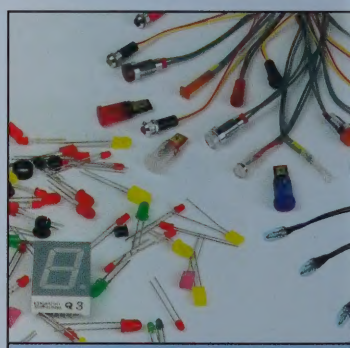
M ▸ FUSES & ACCESSORIES



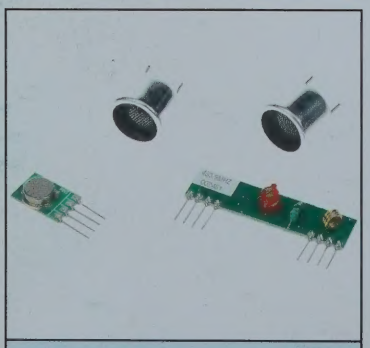
N ▸ RELAYS



O ▸ TRANSFORMERS, COILS & MOTORS



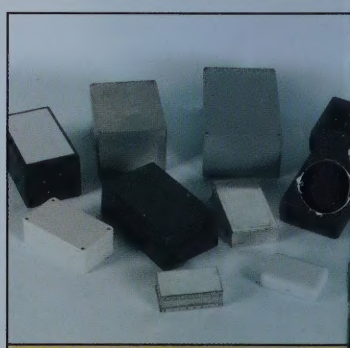
P ▸ LAMPS & LEDs



Q ▸ SEMICONDUCTORS & SENSORS

R ▸ PASSIVE COMPONENTS

S ▸ BATTERIES & CHARGERS



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A

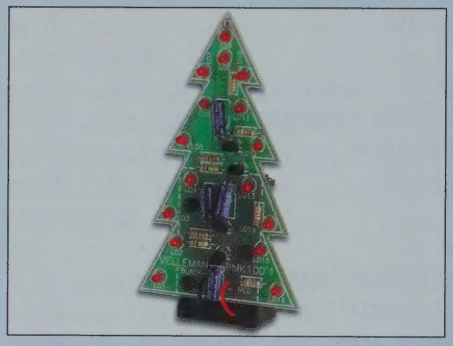
MINIKITS

ANIMATED GHOST ▸▸ MK166

FEATURES :
- great Halloween gadget
- greets your visitors
- for shops, parties, events or just for fun

SPECIFICATIONS :
- ghost responds to sudden noises
- adjustable sensitivity
- battery operation : 2xAAA battery
- dimensions : 137x68x50mm

ELECTRONIC CHRISTMAS TREE ▸▸ MK100



Christmas was never so congenial ! 16 blinking LEDs.

FEATURES :
- also available in mounted version : MMK100 (see p.22)

SPECIFICATIONS :
- very low power consumption : max. 4mA
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 4.0" x 1.0"

RIDING SANTA ▸▸ MK116

126 LED multicolor animated Xmas gadget. No need to remove battery when using external supply. 12V operation possible for use in cars, trucks. On/off switch included.

FEATURES :
- also available in mounted version : MMK116 (see p.22)

SPECIFICATIONS :
- power supply : 9 to 12V DC or 9V alkaline battery (not incl.)
- dimensions : 3.2" x 5.7"
- recommended adapter : PS905USA

DE LUXE XMAS TREE ▸▸ MK117

Beautiful tree consisting of 134 LEDs. 18 randomly blinking candles. No need to remove battery when using external supply. 12V operation possible for use in cars, vans, trucks. On/off switch included.

FEATURES :
- also available in mounted version : MMK117 (see p.22)

SPECIFICATIONS :
- power supply : 9 to 12V DC or 9V alkaline battery (not incl.)
- recommended adapter : PS905USA
- dimensions : 5.6" x 3.2"

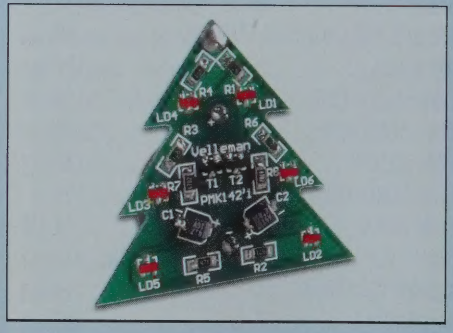
3D XMAS TREE ▸▸ MK130

The ultimate Xmas gadget.

FEATURES :
- 16 flashing red LEDs
- extra green and yellow LEDs provided to customize your tree
- can be hung and supplied through the wires

SPECIFICATIONS :
- low power consumption : 8mA
- power supply : 9V battery operation (not incl.)
- will operate on 12V DC (e.g. in cars, ...)
- dimensions : 3.1" x 3.5" x 4.0"

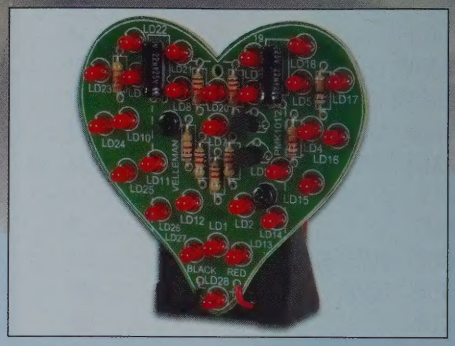
SMD X-MAS TREE ▸▸ MK142



FEATURES :
- miniature Xmas gadget
- 6 LEDs flash alternately
- tree can be operated pending (e.g. from the ceiling or Xmas tree) or can be worn as a badge (pin supplied)
- great attention grabber
- ideal introduction to SMD (Surface Mounted Device) technology
- some extra parts are supplied, in case some get lost or damaged

SPECIFICATIONS :
- power supply : 3V Li button cell (e.g.CR2025 or CR2032)
- power consumption : 5mA approx.
- dimensions : 1.75" x 1.6" x 0.3"

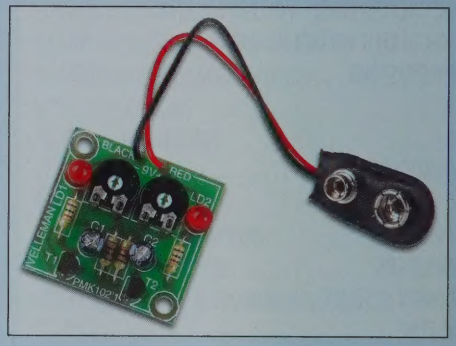
FLASHING LED SWEETHEART ▸▸ MK101



Show your love in an original way that your heart still beats faster for him or her. 28 LEDs form 2 blinking hearts.

SPECIFICATIONS :
- consumption : ″ 8mA
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 2.4" x 1.2"

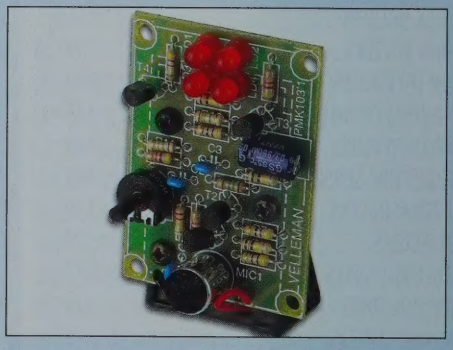
FLASHING LED'S ▸▸ MK102



For different applications (such as model construction), and recreational. Adjustable flashing speed with two potentiometers.

SPECIFICATIONS :
- consumption : ″ 8mA
- power supply : 9V battery (not incl.)
- dimensions : 1.2" x 1.4" x 0.6"

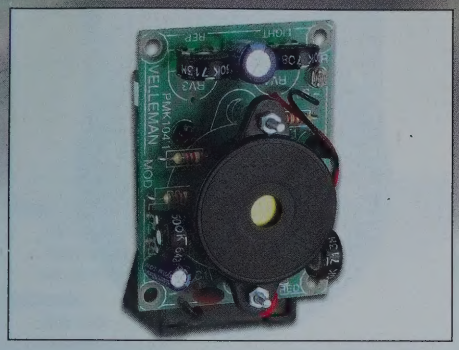
SOUND-TO-LIGHT UNIT ▸▸ MK103



Four high-intensity LEDs light up and react simultaneously on every sound. For different funny and practical applications, such as : sound indicator, simple sound-to-light unit for music, for the hearing impaired : can be used to indicate the telephone, door bell. Adjustable sensitivity with potentiometer. Built-in microphone.

SPECIFICATIONS :
- consumption : 0.5mA min. / 12mA max.
- power supply : 9V battery (not incl.)
- dimensions : 1.6" x 2.2" x 1.4"

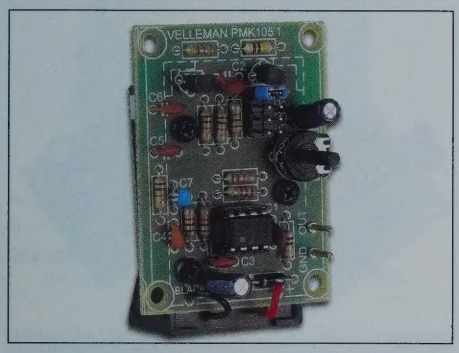
ELECTRONIC CRICKET ▸▸ MK104



Can be used for fun or to simulate a hot summer night. Automatically comes on when it gets dark. Cricket repetition (time between two crickets), effect and tone adjustable. Adjustable light sensitivity.

SPECIFICATIONS :
- consumption : ″ 5mA
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 0.4" x 1.0"

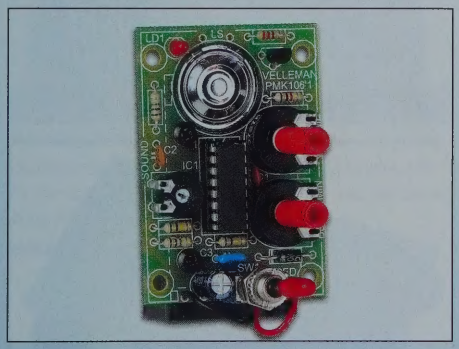
SIGNAL GENERATOR ▸▸ MK105



FEATURES :
- signal output : sine wave, triangle, square wave and integrator (selectable through jumper)
- signal frequency : about 1kHz (fixed)
- output level : adjustable from 0 to 100mVrms (LEVEL potentiometer)

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 2.2" x 1.6"

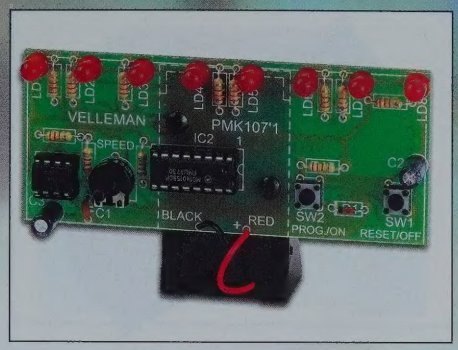
METRONOME ▸▸ MK106



Speaker included. LED beat indication. Adjustable volume and beats / minute with potentiometers. On / off switch on board.

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 1.7"

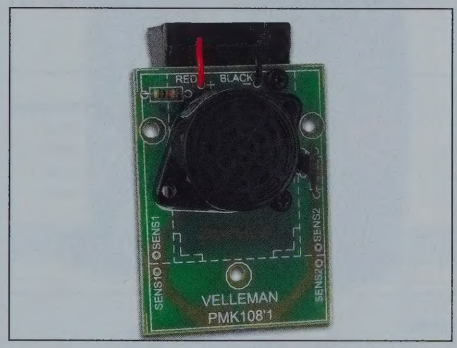
LED RUNNING LIGHT ▸▸ MK107



8 LEDs. Different LED running effects are selectable (PROG push button). Adjustable effect speed (SPEED potentiometer). Power stand-by push button (OFF push button).

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 3.5" x 1.6"

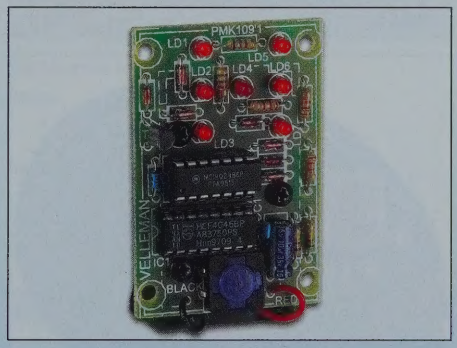
WATER ALARM ▸▸ MK108



Gives alarm sound when water is detected. Incorporated alarm buzzer. Water sensor can be placed at a distance by cutting the board and using wires to connect the sensor.

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 1.8" x 2.8"

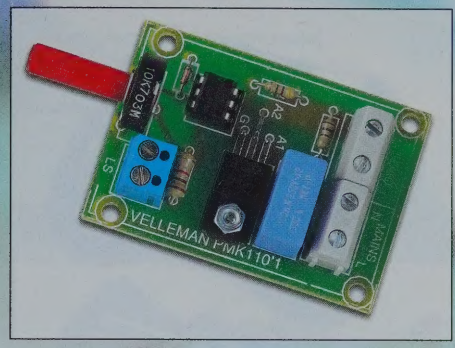
ELECTRONIC DICE ▸▸ MK109



Electronic die with LED indication. Rolls slowly out when the push button is released.

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 1.7" x 2.4"

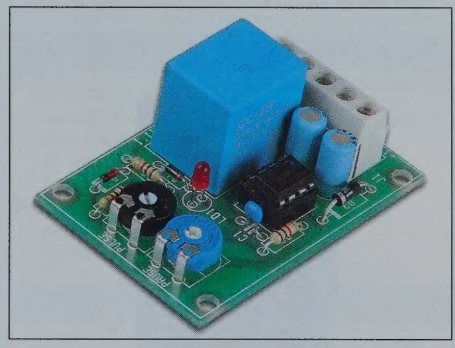
SIMPLE ONE CHANNEL LIGHT ORGAN ▸▸ MK110



With loudspeaker input. Modulates a lamp according to the music signal at the input. Optical isolated loudspeaker input. Adjustable sensitivity.

SPECIFICATIONS :
- input sensitivity : 2W to 60W
- maximum load : 120W at 120V AC and 230W at 230V AC
- dimensions : 2.4" x 1.6"

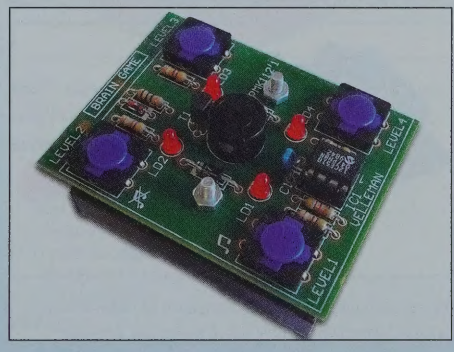
INTERVAL TIMER ▸▸ MK111



For intermittent operation of circuits and equipment. Blinking light, video/ photo single frame shooting, slide projector control, miniature models.

SPECIFICATIONS :
- output relay with dry switch-over contact : 3A/24V
- pulse time adjustable : between 0.5 and 5 sec.
- pause time adjustable : between 2.5 and 60 sec.
- power supply : 12V DC / 100mA
- dimensions : 1.6" x 3.4"

BRAIN GAME ▸▸ MK112



Just 4 LEDs and 4 push buttons provide hours of fun. The aim-of-the-game is to repeat a pattern, which is generated at random. The pattern is played both visually and audible or visually only (selectable). It features 4 difficulty levels, which can be selected at start-up. The replay speed gradually increases during the game, to make it even more challenging. Low power consumption. Microprocessor controlled. Auto power off.

SPECIFICATIONS :
- power supply : 3 1.5V AA batteries (not incl.)
- dimensions : 2.0" x 2.6"

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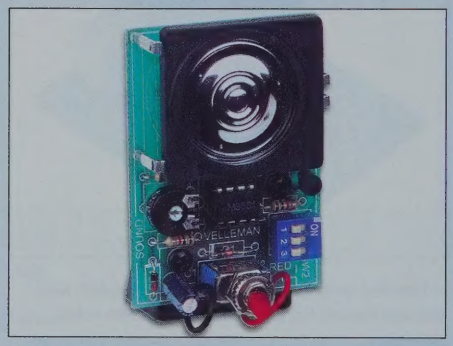
BRAIN GAME ▸▸ MK159

Just 4 LEDs and 4 push buttons provide hours of fun. The aim-of-the-game is to repeat a pattern, which is generated at random. The pattern is played both visually and audible or visually only (selectable). It features 4 difficulty levels, which can be selected at start-up. The replay speed gradually increases during the game, to make it even more challenging. Low power consumption. Microprocessor controlled. Auto power off.

SPECIFICATIONS :
- power supply : 3 1.5V AAA batteries (not incl.)
- dimensions : 3.3" x 2.6" x 1.6"

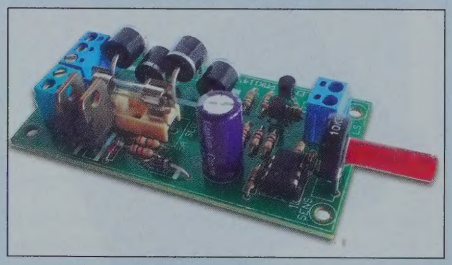
SIREN SOUND GENERATOR ▸▸ MK113



Generates 4 different sounds : police siren, fire brigade, emergency vehicle and laser gun. RV1 adjusts sound pitch. On/off switch and PCB speaker included.

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 1.6"

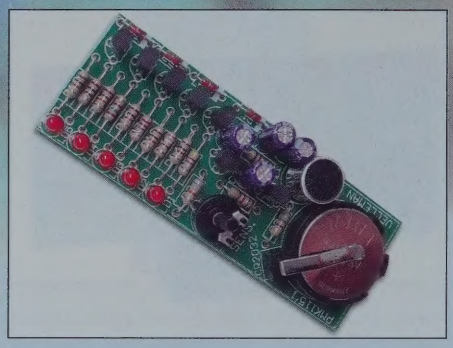
LOW VOLTAGE LIGHT ORGAN ▸▸ MK114



Operates at safe voltage level. Makes lamps flash to the rhythm of the music. Usable for halogen bulbs. Optically isolated speaker input. Adjustable sensitivity. Can be used in the car, if the lamps are isolated from the chassis.

SPECIFICATIONS :
- input sensitivity : 2W to 60W
- maximum load : 50W / 12V or 100W / 24V
- power supply : 12V to 24V DC or AC
- dimensions : 1.8" x 3.5"

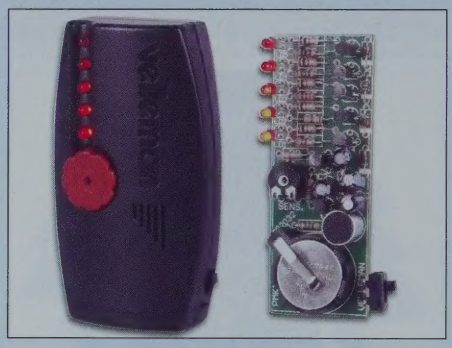
POCKET VU METER ▸▸ MK115



Surprise your friends in the disco. 5 red LEDs. Incorporated microphone. Adjustable sensitivity.

SPECIFICATIONS :
- power supply : 3V type CR2032 battery (not incl.)

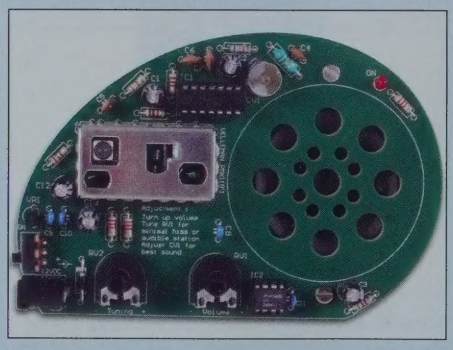
POCKET VU METER IN ENCLOSURE ▸▸ MK146



FEATURES :
- LEDs move to the rhythm of the music
- surprise your friends in the disco
- incorporated microphone
- adjustable sensitivity

SPECIFICATIONS :
- power supply : 3V type CR2032 battery (not incl.)
- on/off switch
- 5 LEDs
- designer enclosure
- dimensions : 3.4" x 2.0" x 1.0"

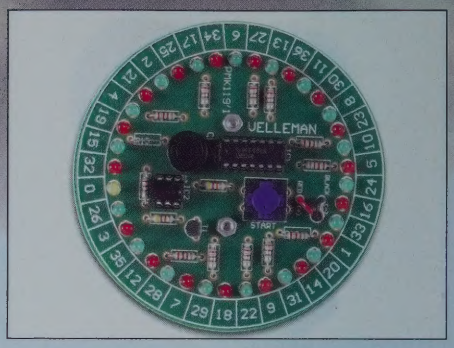
FM RADIO ▸▸ MK118



FEATURES :
- double fun : building and listening !
- easy to assemble : no coils to wind
- one single adjustment
- pre-assembled and tested FM front end
- receives the complete FM band : 88-108 MHz
- with ON/OFF switch, volume control and LED indicator

SPECIFICATIONS :
- power supply : 12V DC / 100mA (adaptor jack provided)
- dimensions : 4.8" x 3.3"

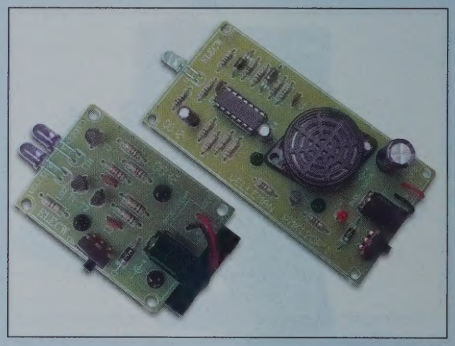
ROULETTE ▸▸ MK119



37 LEDs. Spinning sound. 'Winner'-tune for each color. Spins LEDs between games. Pushbutton operation. Microprocessor technology.

SPECIFICATIONS :
- auto power-off
- low power consumption
- power supply : 3 AA battery operation (not incl.)
- dimensions : Ø3.6" x 1.3"

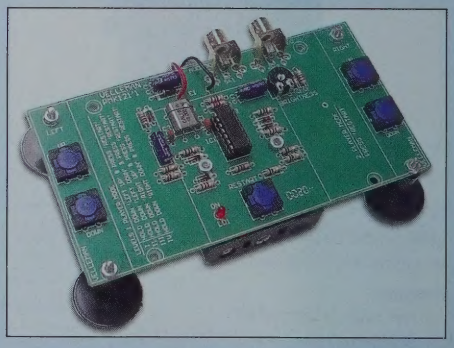
IR LIGHT BARRIER ▸▸ MK120



Applications : announce visitors, warn against burglars, set boundaries, for science projects,...

SPECIFICATIONS :
- audible (85dB) and visible (LED) alert
- range : 3.3ft to 13ft
- on/off switch provided
- power supply :
  - transmitter : 9V DC / 50mA max.
  - receiver : 9V DC / 20mA max.
  - 9V battery holder and adapter jack included
- dimensions :
  - transmitter : 2.2" x 1.6"
  - receiver : 3.9" x 2.0"
- not recommended for outdoor use

CLASSIC TV GAME ▸▸ MK121NTSC

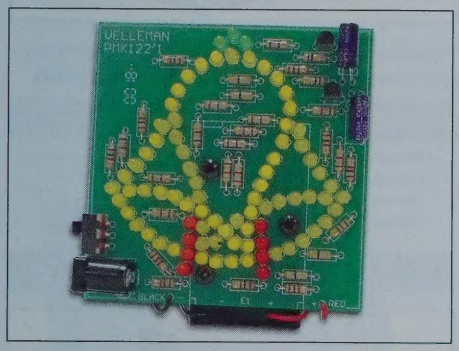


One player mode : four difficulty levels, to select a level hold one of the move buttons then press RESTART. Two player mode : press RESTART. Press both move buttons to "smash" or to start serve. Only the server can score points.

FEATURES :
- video and audio output
- adjustable brightness
- auto power off

SPECIFICATIONS :
- power supply : 3 1.5V AA batteries (not incl.)
- dimensions : 2.9" x 5.5"

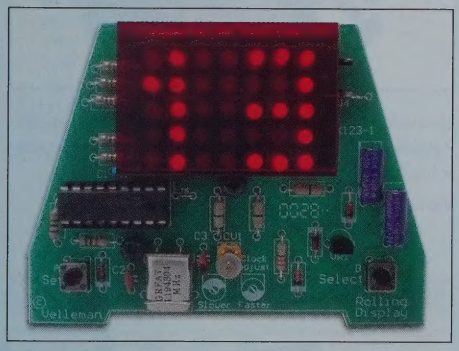
83 LED ANIMATED BELL ▸▸ MK122



No need to remove battery when using external supply. 12V operation possible for use in cars, trucks. On/off switch included.

SPECIFICATIONS :
- power supply : 9 to 12V DC adapter or 9V alkaline battery (not incl.)

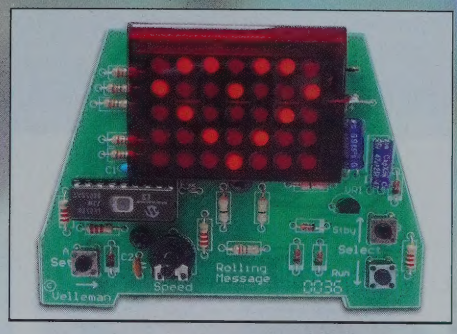
ROLLING CLOCK ▸▸ MK123



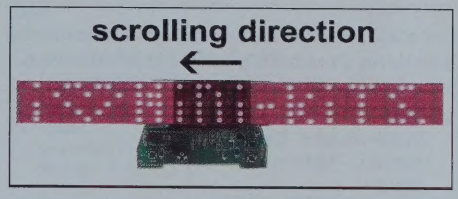
Nicely animated rolling time and date display. Graphic display with 35 LEDs. Select hours, minutes, month or day with SELECT and enter the values with SET. Time display in 12h-mode (24h-mode when setting clock). Fine-tune the clock by turning CV1.

SPECIFICATIONS :
- power supply : 9-12V DC adapter or car battery
- current consumption : 20mA max.
- backup battery : 9V block type 6LR61 / 6F22
- dimensions : 1.8"/3.5" x 2.6"

ROLLING MESSAGE ▸▸ MK124

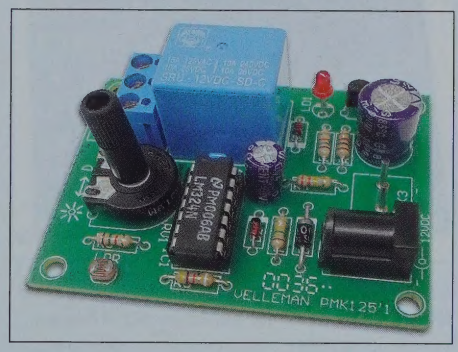


Create your own moving message. 35-LED graphic display. Max. 16 characters. Adjustable scrolling speed. Press "SET" to change a particular character. Press the up or down-key to select a character and end with the "<"-sign. Display standby function: press "Stby" (press RUN to restart)



SPECIFICATIONS :
- power supply : 9-12V DC adapter or car battery
- current consumption : 20mA max. / 4mA standby
- backup battery : 9V block type 6LR61/ 6F22
- dimensions : 1.8"/3.5" x 2.6"

LIGHT SENSITIVE SWITCH ▸▸ MK125

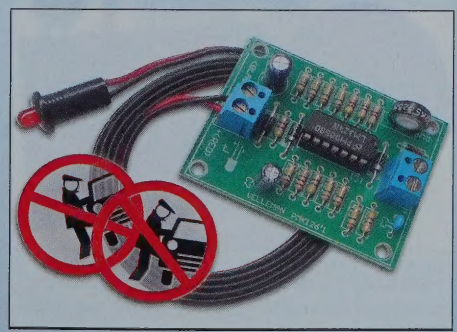


Switch-on at dusk, turn off at dawn, fully automatic.

FEATURES :
- wide-range adjustable sensitivity
- delay circuit avoids cycling

SPECIFICATIONS :
- relay output : NO/NC 24V/5A max.
- power supply : 12V DC
- with adapter-connector
- dimensions : 2.6" x 2.0"

CAR ALARM SIMULATOR ▸▸ MK126

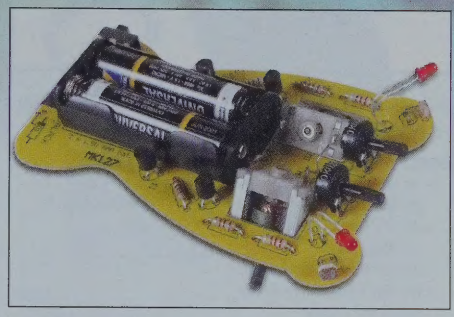


LED with 'realistic-appearing' flash sequence simulates active car alarm system.

FEATURES :
- activates automatically when the engine is turned off
- easy to install, just two wires to connect
- adjustable sensitivity

SPECIFICATIONS :
- low current consumption : 12mA max. (12V only)
- comes complete with pre-wired LED-holder and two warning labels
- dimensions : 2.3" x 1.8"

RUNNING MICROBUG ▸▸ MK127



Attractive bright colored bug-shaped miniature robot. The microbug is always hungry for light, it drives towards it !

FEATURES :
- two open chassis sub-miniature motors
- adjustable light-sensitivity suits almost any light condition and allows to control it's 'bug-like' behavior
- LED 'eyes' indicate driving direction
- stops in total darkness

SPECIFICATIONS :
- power supply : 2 1.5V AAA batteries (not incl.)
- dimensions : 4.0" x 2.4"

CRAWLING MICROBUG ▸▸ MK129

Attractive bright colored bug-shaped miniature robot. The microbug is always hungry for light, it drives towards it.

FEATURES :
- two open chassis sub-miniature motors
- adjustable light-sensitivity suits almost any light condition and allows to control it's 'bug-like' behavior
- adjustable speed
- choose between two different walks
- LED 'eyes' indicate driving direction
- stops in total darkness

SPECIFICATIONS :
- power supply : 2 1.5V AAA battery operation (not incl.)
- dimensions : 4.3" x 3.5"

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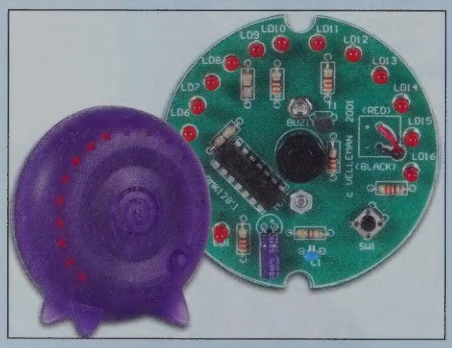
CRAWLING MICROBUG ▸▸ MK165

Attractive bug-shaped miniature robot. The microbug is always hungry for light, it drives towards it.

FEATURES :
- two open chassis sub-miniature motors
- adjustable light-sensitivity suits almost any light condition and allows to control it's 'bug-like' behavior
- adjustable speed
- choose between two different walks
- LED 'eyes' indicate driving direction
- stops in total darkness

SPECIFICATIONS :
- power supply : 2 1.5V AAA battery operation (not incl.)
- dimensions : 5.2" x 3.5" x 2.0"

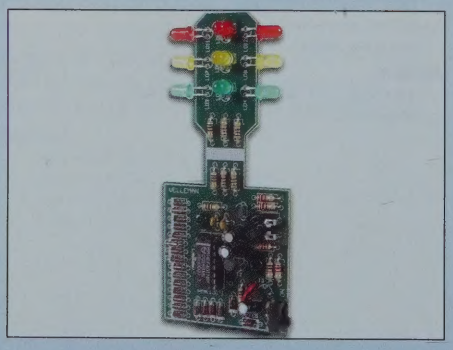
KITCHEN TIMER ▸▸ MK128



1 minute to 1 hour timing. Single button, straightforward operation. Clear 16-led readout. Audible and visible alarm with discrete pre-alarm. Auto power-off. Attractive designer enclosure.

SPECIFICATIONS :
- μcontroller technology
- settings :
  - 1-10' : one minute steps
  - 10-30' : five minute steps
  - 30-60' : 15 minute steps
- basic accuracy : better than 5%
- power supply : 3 AAA 1.5V batteries (not incl.)
- power consumption : 10mA typ.
- dimensions : 3.1" x 3.0" x 1.3"

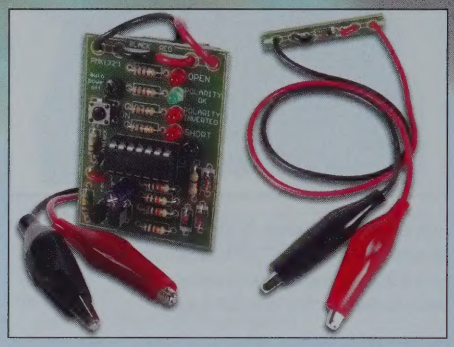
TRAFFIC LIGHT ▸▸ MK131



Miniature traffic light as used on four-way junctions. Realistic operation with adjustable delay. 12 LEDs. Great for model railroads, exhibitions, as a toy, ...

SPECIFICATIONS :
- low power consumption : 15mA
- power supply : 9V battery (not incl.)
- ON/OFF switch
- dimensions : 2.0" x 1.4" x 4.5"

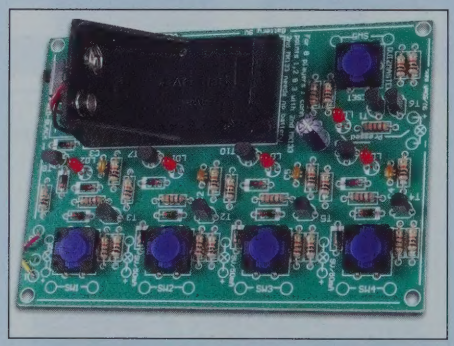
CABLE POLARITY CHECKER ▸▸ MK132



Check cables for continuity and identify individual wires. Ideal for speaker cable polarity checking. LED indication for open circuit, shorts and correct or wrong polarity. Pushbutton operation with auto power off.

SPECIFICATIONS :
- low power consumption : 10mA max.
- power supply : 9V battery operated (not incl.)
- dimensions :
  - main board : 2.2" x 1.6" x 1.3"
  - remote board : 1.6" x 0.3"

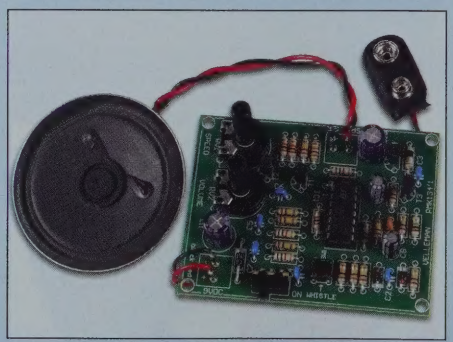
QUIZ TABLE ▸▸ MK133



Up to four players can compete. LED indicates first button pushed. Quizmaster 'RESET' -button with 'button pushed'-indication. Two units can be daisy-chained for eight-player-fun !

SPECIFICATIONS :
- with on-off switch
- power supply : 9V battery (not included)
- dimensions : 4.3" x 3.1" x 1.1"

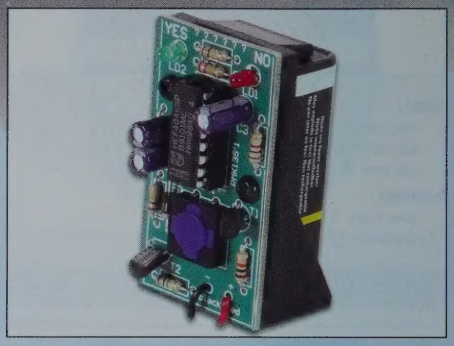
STEAM ENGINE SOUND GENERATOR WITH WHISTLE ▸▸ MK134



Generates sound of a vintage steam engine. Adjustable 'speed' and volume. Great for model railroads, radio plays, stage, as gadget. With 'steam whistle'-push button.

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- comes with 8 ohm/0.5W miniature speaker
- dimensions : 3.9" x 3.3"

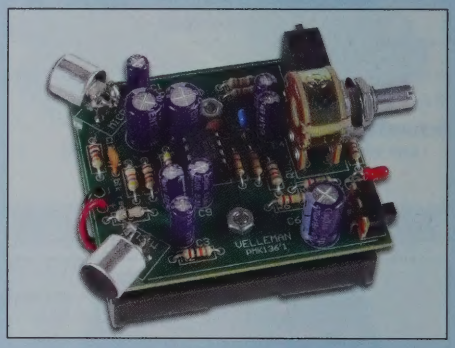
ELECTRONIC DECISION MAKER ▸▸ MK135



Helps making difficult YES or NO decisions. Ideal for the indecisive. Simply push the button to start flashing of YES/NO LEDs. Flashing speed gradually decreases and finally one LED remains lit.

SPECIFICATIONS :
- low power consumption : 1μA idle / 8mA in-use
- auto power-off
- power supply : 9V battery operated (not incl.)
- dimensions : 2.2" x 1.2" x 1.4"

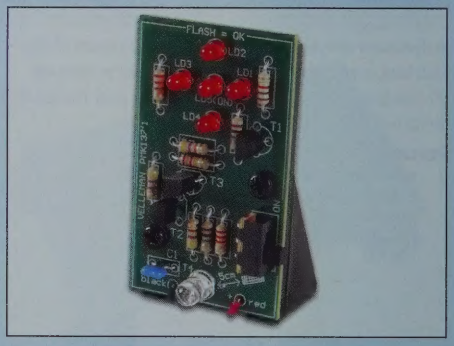
SUPER STEREO EAR ▸▸ MK136



Stereo audio amplifier boosts sound 50 times. Great for the-hearing impaired (e.g. when watching TV), as a gadget, science project, & With volume control and on/off switch.

SPECIFICATIONS :
- power supply : 3 1.5V AA battery (not included)
- dimensions : 2.4" x 2.1" x 1.7"

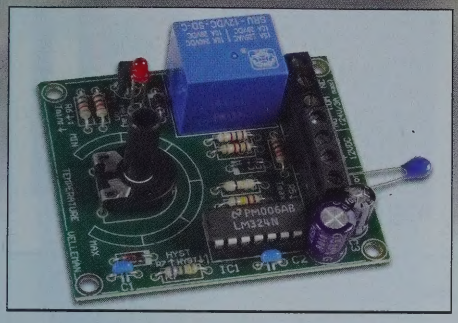
IR REMOTE CHECKER ▸▸ MK137



The easy way to check your IR remote for proper operation. Simple operation : point the remote at the sensor and push any button. 4 flashing LEDs indicate remote operation.

SPECIFICATIONS :
- low power consumption
- power supply : 9V battery (not incl.)
- dimensions : 2.2" x 1.2" x 1.3"

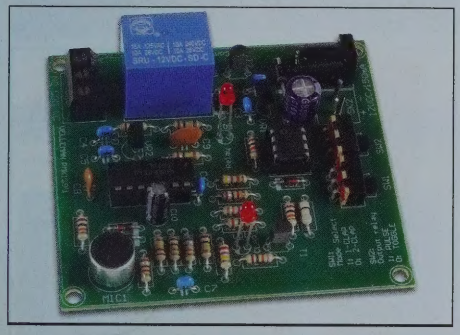
THERMOSTAT ▸▸ MK138



General purpose low-cost thermostat with NTC temperature sensor. Output relay with LED-indicator.

SPECIFICATIONS :
- temperature range : 41±F to 86±F approx.
- relay power rating : 24V DC/AC 3A
- power supply : 12V DC / 100mA
- dimensions : 2.1" x 2.4" x 1.1"

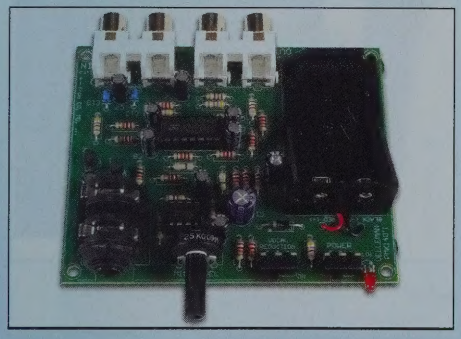
CLAP ON/OFF SWITCH ▸▸ MK139



FEATURES :
- operate your lighting with a simple handclap
- ideal for disabled or elderly people
- good immunity against surrounding noises
- '1-clap' or '2-clap'-mode selection
- '2-clap'-mode features built-in safety turn-off timer (5h approx.)
- output relay 'pulse' or 'toggle' selection
- microprocessor controlled
- output relay with LED-indicator

SPECIFICATIONS :
- relay power rating : 24V DC/AC 3A
- power supply : 12V DC / 150mA
- with DC adapter socket
- dimensions : 3.1" x 2.9" x 0.9"

KARAOKE ▸▸ MK140



FEATURES :
- sing along with your favorite music
- hook-up the unit between your CD-player, MD-player or any other line-level source and your amplifier
- RCA (cinch) input and output sockets
- with 1/4" microphone jack, fits most microphones
- adjustable microphone level
- "vocal reduction"-switch reduces original vocals on most stereo recordings
- on/off switch and LED power indicator

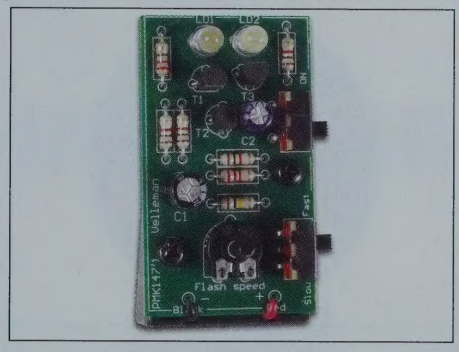
SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- low power consumption : 16mA typ.
- dimensions : 3.9" x 3.3" x 1.0"

HALLOWEEN PUMPKIN ▸▸ MK145

FEATURES :
- 25-LED bright-colored pumpkin-shape Halloween gadget
- random flash effect simulates flickering candle
- 1 extra high intensity yellow LED illuminates the pumpkin
- on/off switch

SPECIFICATIONS :
- power supply : 9V battery (not incl.) / 20mA
- dimensions : 4.0" x 3.2" x 1.3"

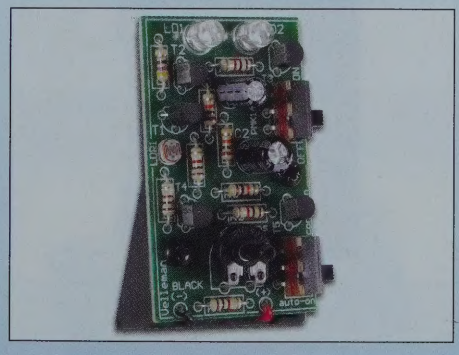
DUAL WHITE LED STROBOSCOPE ▸▸ MK147



FEATURES :
- two super bright white LEDs
- powerful flash effect
- great for party's, in scale models, as attention grabber, to observe moving parts, etc...
- slow/fast selector and speed adjust trimmer
- speed adjustable between approx. 1 and 60 flashes/second
- on/off switch

SPECIFICATIONS :
- power supply : 9V battery (not incl.)
- power consumption : 40mA max.
- dimensions : 2.2" x 1.3" x 1.6"

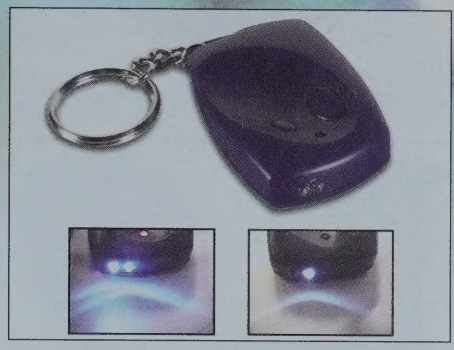
DUAL SUPER BRIGHT FLASHING RED LIGHTS ▸▸ MK148



FEATURES :
- two super bright red LEDs
- very powerful flash effect
- for emergencies, warning signs, as eye-catcher, 'alarm-active' - simulation, etc ...
- 'Auto turn-on at dark' - mode with adjustable sensitivity
- on/off switch

SPECIFICATIONS :
- power supply : 9V battery (not incl.) (12V possible)
- dimensions : 2.2" x 1.3" x 1.6"

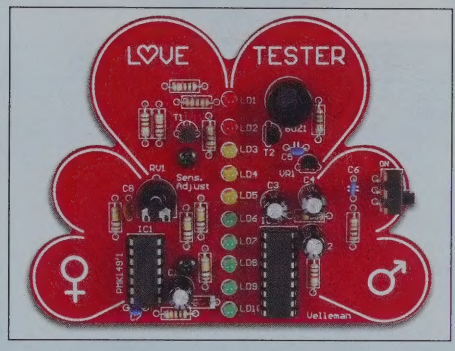
WHITE LED FLASHLIGHT ▸▸ MK143



FEATURES :
- white LED technology
- 2 high-power LEDs (4500mcd)
- LED life : > 100.000h (more than 11 years at a stretch !)
- low power consumption
- runs up to 10 hours on a single battery (test conditions : 15s ON, 60s OFF continuous for 7 hours/day)
- automatic battery management for efficient use of battery power
- built-in strobo effect for emergencies. Can also be used as an attention grabber, ...

SPECIFICATIONS :
- power supply : 12V e.g. V23GA, GP23GA, etc& (battery not included)
- dimensions : 2.4" x 1.6" x 0.6"
- weight : 1.1oz. (with battery)

LOVE TESTER ▸▸ MK149

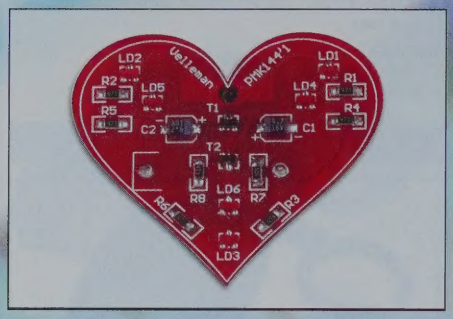


FEATURES :
- check your love life !
- each partners holds one end of the PCB, then they join hands, watch the meter go ...
- great fun at parties, among friends, etc...
- 10-LED readout plus audible 'love-level'-indication
- flashing LEDs indicate you're a red-hot lover
- wide sensitivity range covers the entire spectrum, from the cool to a steaming Latin lover!
- power switch included

SPECIFICATIONS :
- power supply : 9V battery (not included)
- dimensions : 4.1" x 3.1" x 0.98"

A

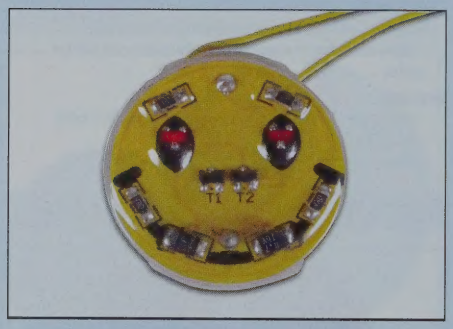
SMD FLASHING HEART ▸▸ MK144



FEATURES :
- miniature size gadget
- 6 LEDs flash alternately
- can be operated pending (e.g. around the neck) or can be worn as a badge (pin supplied)
- great attention grabber
- ideal introduction to SMD (Surface Mounted Device) technology
- some extra parts are supplied, in case some get lost or damaged

SPECIFICATIONS :
- power supply : 3V Li button cell (e.g. CR2025 or CR2032) (not included)
- power consumption : 5mA approx.
- dimensions : 1.9" x 1.7" x 0.3"

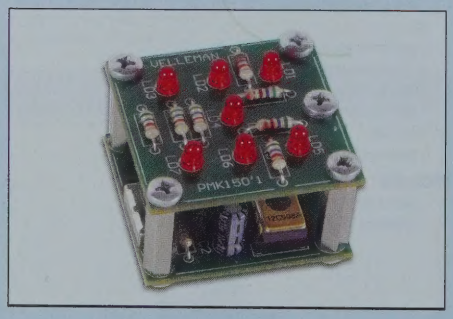
SMD HAPPY FACE ▸▸ MK141



FEATURES :
- miniature size gadget
- 2 LEDs flash alternately
- can be operated pending (cord supplied)
- great as attention grabber
- ideal introduction into SMD (Surface Mounted Device) technology
- some extra parts are supplied, in case some get lost or damaged

SPECIFICATIONS :
- power supply : 3V Li button cell (e.g. CR2025 or CR2032)
- power consumption : 5mA approx.
- dimensions : Ø1.1" x 0.3"

SHAKING DICE ▸▸ MK150



FEATURES :
- no push buttons required, just give it a shake
- rolls out slowly and flashes last combination
- microprocessor-controlled
- auto power-off

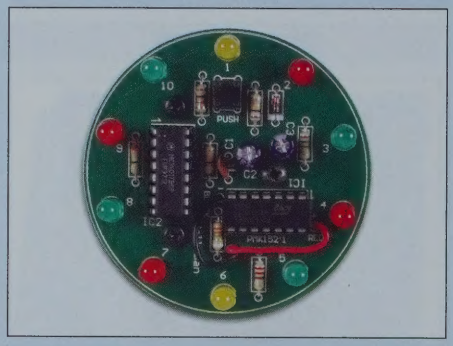
SPECIFICATIONS :
- power supply : 3V-battery (CR2025 or CR2032) (not incl.)
- dimensions : 1.4" x 1.4" x 1.3"

DIGITAL LED CLOCK ▸▸ MK151

FEATURES :
- clock with red 7-segment displays in an attractive enclosure
- automatic time base selection (internal or net-frequency controlled 50/60Hz)
Internal time base with fine-tuning adjustment
- internal time base with fine-tuning adjustment
- select 12h- or 24h-mode for the time display
- equipped with backup battery (3 x AA) in case of power failure
- clock still displays the time in case of power failure

SPECIFICATIONS :
- power supply : 9V AC/DC
- dimensions : 3.6" x 1.8" x 4.0"

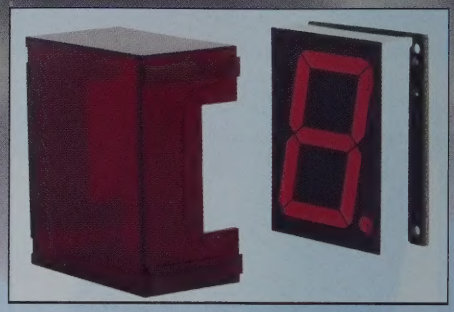
WHEEL OF FORTUNE ▸▸ MK152



FEATURES :
- 10-LED wheel of fortune
- push the button to start spinning action
- spinning speed gradually decreases
- finally it stops and one LED remains lit
- auto power-off
- low power consumption

SPECIFICATIONS :
- power supply : 9V battery (not included)
- dimensions : Ø2.6" x 1.3"

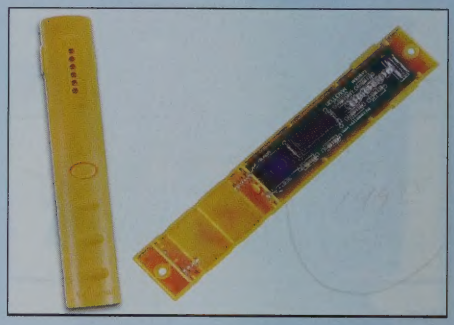
JUMBO SINGLE DIGIT CLOCK ▸▸ MK153



FEATURES :
- gadget clock
- time is displayed as a sequence of digits
- bright 57mm jumbo red 7-segment display
- complete with attractive enclosure
- single button operation
- 'blank display' function

SPECIFICATIONS :
- 12h system
- accuracy : 30ppm
- power supply : DC 9-12V / 150mA max.
- dimensions : 2.9" x 2.3" x 1.3"

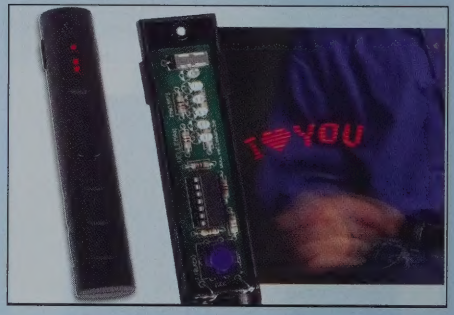
5 IN 1 EMERGENCY TOOL ▸▸ MK154



FEATURES :
- microprocessor technology
- functions include : flashlight, emergency flasher, SOS morse code flasher, SOS message wand and lighting distance meter
- applications : camping, biking, hiking, boating, in the car, etc...
- attractive enclosure with belt clip
- low power consumption

SPECIFICATIONS :
- power supply : 2 1.5V AAA batteries (not incl.)
- dimensions : 6.3" x 1.0" x 0.9"

MAGIC MESSAGE ▸▸ MK155



FEATURES :
- amaze your friends : wave the wand to make the message appear
- the message seems to be floating in the air...
- lots of built-in messages + enter your own 7-character message
- applications : novelty gadget, in emergencies, at concerts or TV-shows, to welcome people, etc&
- excellent visibility due to high intensity red LEDs
- low power consumption
- auto power-off

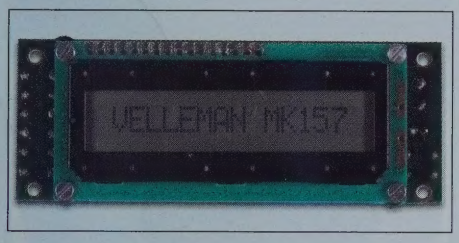
SPECIFICATIONS :
- power supply : 2 x AAA batteries (not incl.)
- dimensions : 6.4" x 1.0" x 0.9"

LCD MINI MESSAGE BOARD WITH BACKLIGHT AND ENCLOSURE ▸▸ MK158

FEATURES :
- miniature message board with 16 character 1 line backlit LCD display
- 124-character Eprom message memory
- message scrolls with adjustable speed
- built-in message editor
- built-in RS232 interface for easy message uploading and displaying
- free interfacing software available from www.velleman.be
- applications : at exibitions, for advertising, to greet visitors at the front door, as name tag, as serial controlled display in equipment, ...

SPECIFICATIONS :
- power supply : 9VDC / 100mA
- dimensions : 4.5" x 1.7" x 3.0"

LCD MINI MESSAGE BOARD ▸▸ MK157



FEATURES :
- miniature message board with 16 character 1 line LCD display
- message scrolls from right to left with adjustable speed
- applications : at exhibitions, for advertising, to greet visitors at the front door, as name tag, ...
- 46 character message memory
- possibility to add pauses during scrolling

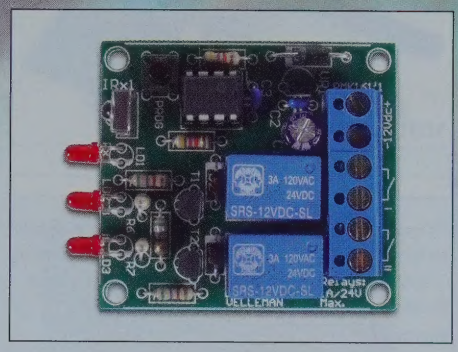
SPECIFICATIONS :
- power supply : 2 AAA battery (not incl.)
- dimensions : 3.9" x 1.5" x 1.3"

REMOTE CONTROL VIA GSM MOBILE PHONE ▸▸ MK160

FEATURES :
- turn equipment on and off at any location via GSM mobile phone
- applications : turn on lighting, heating, open your gate, simulate presence, control animal feeders, activate car alarm, etc...
- ring detection circuit avoids phone charges
- no need to open or modify phone, no physical connection to mobile phone
- works with most GSM mobile phones

SPECIFICATIONS :
- dual operation mode : on/off toggle or on with auto turn-off timer
- timer settings : 0.5s, 2s, 30s, 1 min, 5 min, 15 min, 30min and 1 hour
- NO/NC 3A relay output
- power supply : 12Vdc / 100mA
- dimensions : 4.0" x 1.7" x 0.9"

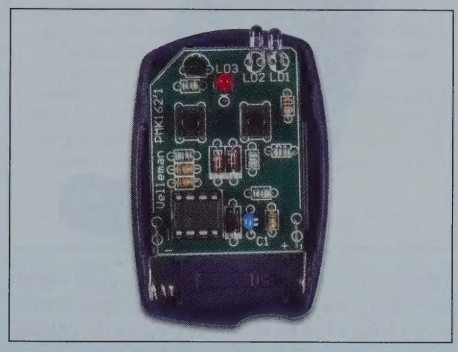
2-CHANNEL IR REMOTE RECEIVER ▸▸ MK161



FEATURES :
- two channels with relay output (24VAC/DC 1A max.)
- ultracompact mode
- channel and reception indication through LEDs
- toggle / pulse selection for each channel
- learn mode for channel ID
- all settings are stored in EEPROM
- compatible with most Velleman Kit IR remotes : MK162 (see p.13) , K6710 , K8051 (see p.42) , K8049 (see p.42)

SPECIFICATIONS :
- power supply : 12V DC
- power consumption : 75mA max.
- dimensions : 1.7" x 1.9" x 0.6"

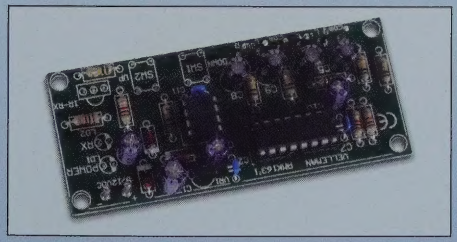
2-CHANNEL IR REMOTE TRANSMITTER ▸▸ MK162



FEATURES :
- compact 2-button IR keychain remote
- compatible with most Velleman IR receivers
- 2 powerful IR LEDs for a range of up to 15m (indoors)
- 16 channels (allow use of multiple transmitters in one room)
- easy channel configuration, no jumpers required
- 'Transmit'-LED

SPECIFICATIONS :
- power supply : 12V (e.g. VG23GA, GP23GA, etc...) (not incl.)
- dimensions : 2.3" x 1.6" x 0.5"

ELECTRONIC STEREO VOLUME CONTROL ▸▸ MK163



FEATURES :
- IR-controlled electronic volume adjustment
- controls the volume of line-level audio signals, suitable for PC or hi-fi applications
- small enough to be built into existing units e.g. CD & DVD players, ...
- compatible with all Velleman IR remotes (except K6708)

SPECIFICATIONS :
- stereo line level in/out : 2Vrms max.
- range : 0dB to -78dB (62 steps)
- 'mute'-function with auto fade-in
- volume up/down/mute buttons
- power supply : 9-12V DC / 100mA
- dimensions : 3.2" x 1.4" x 0.6"

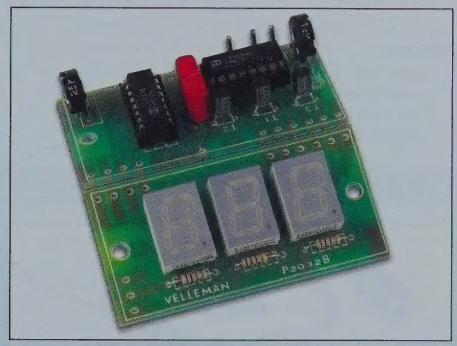
IR ELECTRONIC VOLUME CONTROL ▸▸ MK164

FEATURES :
- IR-controlled electronic volume adjustment
- controls the volume of audio signals, suitable for PC or hi-fi applications
- small enough to put next to existing units, CD or DVD player, ...

SPECIFICATIONS :
- stereo line level in/out : 2Vrms max.
- range : 0dB to -78dB (62 steps)
- 'mute'-function with auto fade-in
- LED volume indication
- complete with enclosure, 3.5mm F stereo mini-jacks and adapter socket (9-12VDC/100mA)
- responds to all Velleman IR remotes (except K6708)
- dimensions : approx. 80 x 55 x 33mm (3.2" x 2.2" x 1.3")

MEASURING INSTRUMENTS

DIGITAL PANEL METER ▸▸ K2032



This panel meter is an almost ideal replacement for the traditional moving-coil type instrument. Its accuracy is many times better. The high precision and stability offered by this meter are illustrated in the technical specifications. As it is very compact, this unit can be built into all kinds of housings or even into existing equipment.

SPECIFICATIONS :
- supply voltage : 5V DC / 250mA
- display : +999mV and -99mV full-scale
- overload indication : positive and negative
- resolution : 1mV
- input impedance : 100Mohm
- PCB dimensions : 1.3" x 2.6"

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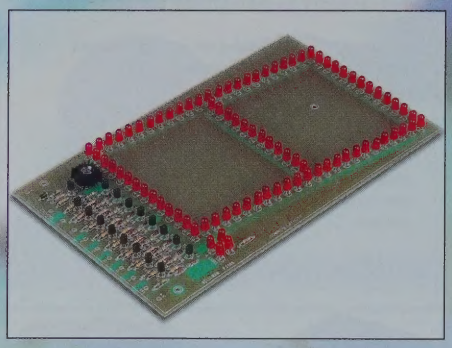
7.9" LED DISPLAY "COMMON ANODE" ▸▸ K2567

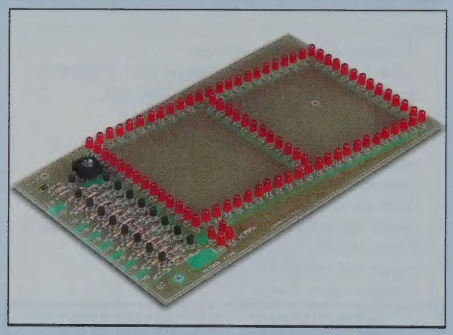


This kit contains a 7-segment display consisting of 12 LEDs per segment and 4 LEDs for the decimal point. Using an additional power supply, which does not have to satisfy any strict standards, it may be easily connected to existing circuit .

Specifications :

- power supply : 22-26V DC non-regulated
- segment current : static : 40mA, multiplex : 75mA
- total current in static mode : max. 400mA
- PCB dimensions : 5.9" x 9.9"

7.9" LED DISPLAY "COMMON CATHODE" ▸▸ K2568

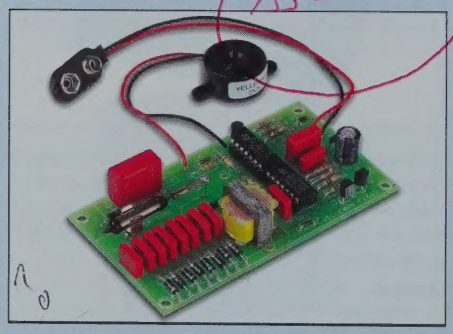


This kit contains a 7-segment display consisting of 12 LEDs per segment and 4 LEDs for the decimal point. Using an additional power supply, which does not have to satisfy any strict standards, it may be easily connected to existing circuit .

Specifications :

- power supply : 22-26V DC non-regulated
- segment current : static : 40mA, multiplex : 75mA
- total current in static mode : max. 400mA
- PCB dimensions : 5.9" x 9.9"

GEIGER-MULLER COUNTER ▸▸ K2645

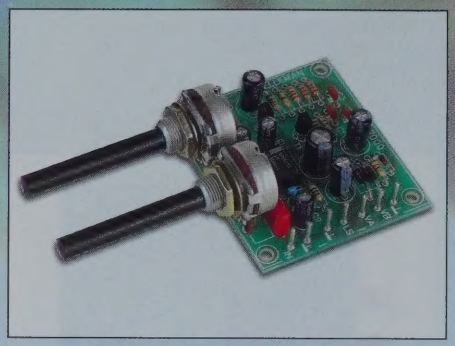


This kit provides an acoustic measurement of radiation levels. The sensitivity is at its highest for gamma rays and high energy beta rays. The assembly is compact and may be mounted into a small box, together with the 9V-battery.

Specifications :

- power supply : 9V battery (not incl.)
- life of 9V battery : approx 2 months at continuous use and normal radiation levels
- dimensions : 3.9" x 2.1" x 1.0"
- recommended housing : G416

SIGNAL TRACER/INJECTOR ▸▸ K7000

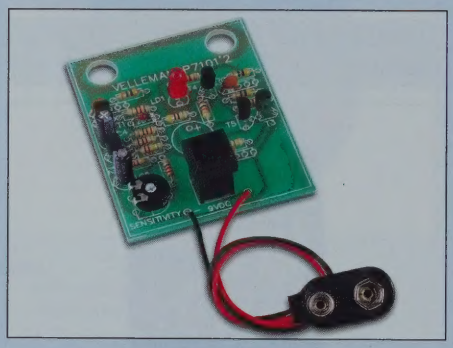


This signal tracer /injector has been designed to inject or detect a specific signal into an audio circuit in need of repair (such as amplifiers, radios, tone controls, ...) so as to detect the fault. In this way problems can be traced more easily. The signal tracer may also be used as a simple monitor or amplifier.

Specifications :

- injector :
  - 0-2.5Vrms output (adjustable)
  - output impedance : 1.5Kohm
  - frequency : ≈ 1kHz
- tracer :
  - 3.5mV to 10Vrms sensitivity (adjustable)
  - gain : 40dB
  - input impedance : 50Kohm
- output power : 0.5W / 8ohm
- power supply : 7-9V AC or 9-12V DC / 150mA
- dimensions : 2.4" x 2.1"

MAINS VOLTAGE DETECTOR ▸▸ K7101

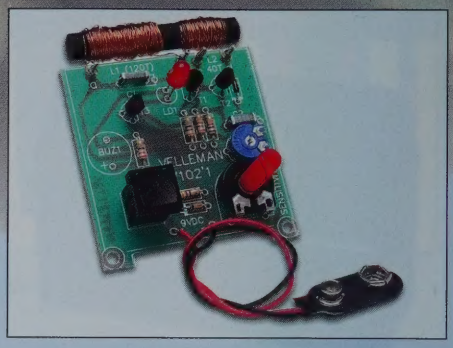


With this device wires can be very easily checked for mains voltage. It can be used to search for wires installed in or behind walls or to trace interruptions in wiring. A flashing LED indicates whether or not voltage is present. The flashing speed indicates how close by the wire is. If an audible signal is also desired, space has been provided on the PCB for buzzer SV4/12-S to be connected. The PCB has been specially constructed to fit entirely into the separately available box type G407.

Specifications :

- detection of mains conducting cables
- LED indication (buzzer optional)
- adjustable detection distance : max. 3.9"
- distance indication
- supply voltage : 9V battery (not incl.)
- dimensions : 2.2" x 2.5"
- recommended housing : G407

METAL DETECTOR ▸▸ K7102RS



To come up against an electric cable while drilling a hole in a wall can have catastrophic consequences. Likewise, drilling into gas, water pipes or central heating pipes can be extremely hazardous. With a handy metal detector it can now be determined beforehand whether there are metal objects to be found in a wall, ceiling or floor. An LED indicates if a metal object is in the vicinity. If an audio signal is also desired, space has been provided on the PCB for buzzer type SV4/12-S () to be connected. The PCB has been specially constructed to fit entirely into to the separately available box type G407.

Specifications :

- metal detecting distance adjustable : up to 3.15"
- power supply : 9V battery (not incl.)
- LED and buzzer indication
- dimensions : 2.2" x 2.5"
- recommended housing : G407

HANDHELD LCD OSCILLOSCOPE ▸▸ K7105

This handheld scope features options never seen in its category. It is packed with handy features which enables you to perform on-the-spot measurements quick, easy and accurate. Its high-contrast, wide viewing angle LCD screen enables operation under normal daylight conditions. All functions are accessible by means of a tactile keyboard with a pleasant touch feeling. The current operating mode is displayed on-screen. If desired, auto-setup mode takes care of all scope settings for instant visualisation of waveforms. The marker function enables you to make accurate measurements of voltage, time and frequency. Acting as a DVM, it displays True rms, dB, peak-to-peak and DC volts. With its built-in variable gain sine generator, it allows easy service of audio equipment, etc.& Probe transient response can be adjusted using the calibration output. Finally, a RS232 port enables screen data to be sent to a PC for use in different applications. A charge circuit with indicator LED for rechargeable batteries is provided.

Features :

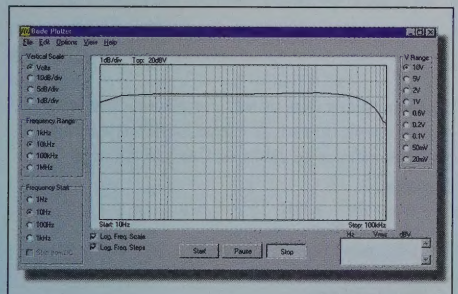
- true RMS or peak to peak read-out
- dB measurements
- markers for voltage and time
- auto setup function
- DC readout with zero reference function
- frequency readout through markers
- dot join function
- screen hold function
- grid or ruler function
- adjustable trigger level

- trigger mode : normal, auto or single
- trigger edge : rising or falling
- waveform memory (1 location only)
- RS232 data output to computer
- auto power off (can be disabled)

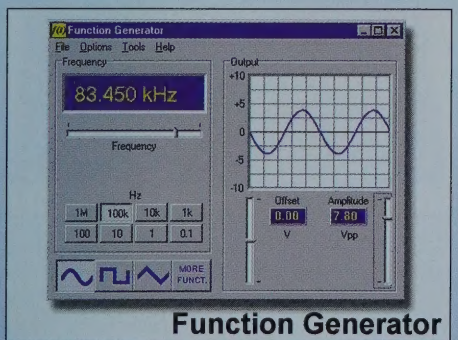
SPECIFICATIONS :

- maximum sample rate for repetitive signals : 5MHz
- maximum sample rate for single shot events : 0.5MHz
- input impedance : 1Mohm // 20pF
- maximum input voltage : 100Vp (AC + DC)
- input coupling : DC, AC and GND
- vertical resolution : 8 bit (6 bits displayed on LCD)
- dB range : -73dB to +40dB
- linearity : 1 bit (of 8 bit data)
- LCD : 64 x 128 pixels
- timebase : 2µs to 20s / div in 22 steps
- input sensitivity : 5mV to 20V / div in 12 steps
- sinewave generator : 400Hz / 1Vrms // 1Kohm (adjustable)
- square wave output : 400Hz 3.5Vpp
- power supply : 9VDC / 300mA
- rechargeable battery : 6 x type AA / 800mAh
- charge current : 90mA
- charging time : 14 hours
- autonomy : 5 hours
- operating temperature : 32±F to 122±F
- dimensions : 5.1" x 9.1" x 1.7"
- options :
  - isolated probe : PROBE60S
  - mains adapter : PS905USA

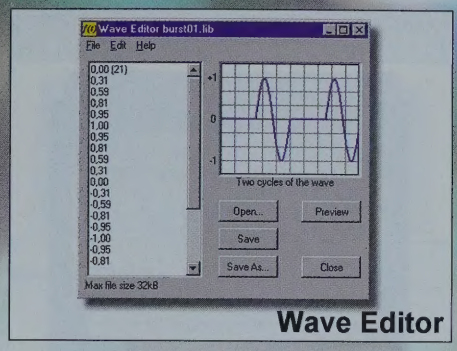
PC FUNCTION GENERATOR 0 - 1MHZ ▸▸ K8016



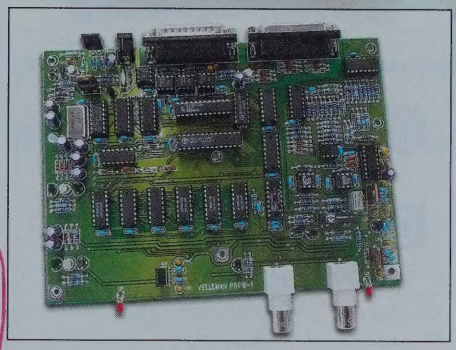
Bode Plot



Function Generator



Wave Editor



FEATURES :

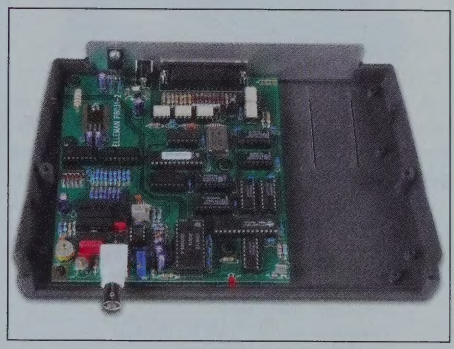
- frequency range : from 0.01Hz to 1 MHz
- crystal-based stability
- optically isolated from the PC
- low sine wave distortion
- TTL level synchronization output
- stores up to 32K of waveform points
- standard waveforms : sine, square and triangle
- predefined library waveforms included : noise, sweep, ...
- includes Windows"! '95/'98/NT/2000/XP integrated software for the function generator and Velleman PC oscilloscopes
- you can create your own waveforms with the integrated signal wave editor
- can be chained with Velleman PC oscilloscopes to the same PC printer port (LPT1, 2 or 3)
- extended bode plot possibility, used with PC scope PCS500AU (see p.24) / K8031 (see p.15) / PCS100AU (see p.23)
- function generator screen with signal preview
- assembled version available : PCG10AU (see p.24)
- minimum system requirements :
  - IBM compatible PC
  - Windows 95, 98, ME, (Win2000, XP or NT possible)
  - SVGA display card (min. 800x600)
  - mouse
  - free printer port LPT1, LPT2 or LPT3
  - CD Rom player

SPECIFICATIONS :

- power supply : standard 12V DC adapter, 800mA (PS1208USA ())
- direct digital wave synthesis (DDS), 32K wave table
- frequency setting resolution : 0.01%
- amplitude range : 100mVpp to 10Vpp @ 600ohm load
- amplitude resolution : 0.4% of full scale
- offset : from 0 to -5V or +5V max. (resolution 0.4% of full scale)
- vertical resolution : 8 bits (0.4% of full scale)
- maximum sample rate : 32Mhz
- typical sine wave distortion (THD) : < 0.08%
- output impedance : 50ohm
- dimensions : 9.3" x 6.5" x 1.9"

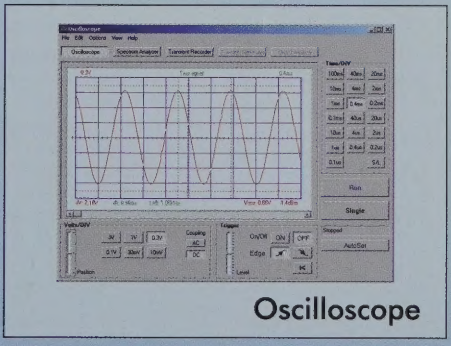
ONE CHANNEL DIGITAL PC SCOPE ▸▸ K8031

The K8031 is a digital storage oscilloscope, using a computer and its monitor to display waveforms. All standard oscilloscope functions are available in the Windows program supplied. Its operation is just like a normal oscilloscope. Connection is through the computer's parallel port, the scope is completely optically isolated from the computer port.



FEATURES :

- general :
  - 1 channel
  - input impedance : 1Mohm / 30pF
  - frequency response : 0Hz to 12MHz (" 3dB)
  - step markers for voltage, time and frequency
  - vertical resolution : 8 bit
  - auto setup function
  - optically isolated from computer
  - record and display of screens & data
  - supply voltage : 9 - 10V DC / 500mA
  - dimensions : 9" x 6.5" x 1.8"
  - weight : 14oz
- minimum system requirements :
  - IBM compatible PC
  - Windows 95, 98, ME, (Win2000 or NT possible)
  - SVGA display card (min. 800x600)
  - mouse
  - free printer port LPT1, LPT2 or LPT3
  - CD Rom player
- options :
  - insulated measurement probe x1 / x10 : PROBE60S
  - soft carry case : GIB
  - non-regulated single voltage adapter : AC input DC output 9V DC/ 850mA
- also available in mounted version : PCS100AU (see p.23)



Oscilloscope

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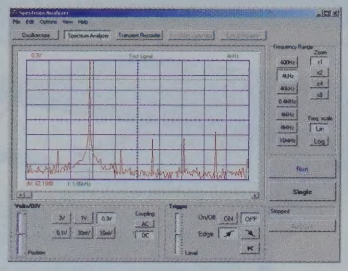


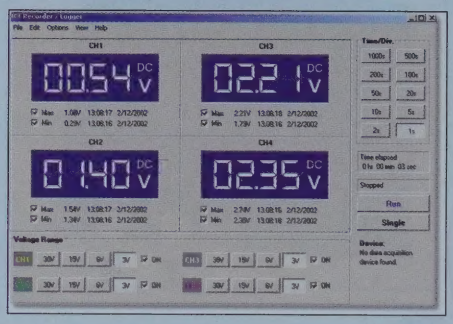
Spectrum Analyser

Transient Recorder

SPECIFICATIONS :

- oscilloscope :
  - timebase : 0.1µs to 100ms per division
  - trigger source : CH1 or free run
  - trigger level : adjustable per ½ division
  - input sensitivity : 10mV to 3V per division
  - record length : 4079 samples
  - sampling frequency : 800Hz to 32MHz (Real time)
  - true RMS readout (only AC component)
- transient recorder :
  - timescale : 20ms/div to 2000s/div
  - max record time : 9.4hour/screen
  - automatic storage of data
  - automatic recording for more than 1 year
  - markers for time and amplitude
  - zoom function
- spectrum analyzer :
  - frequency range : 0 .. 400Hz to 16MHz
  - linear or logarithmic timescale
  - zoom function

4 CHANNEL RECORDER / LOGGER ▸▸ K8047



FEATURES :

- record DC signals or slow moving signals over very long period
- the measurements are automatically stored on your hard disk for further processing
- through the use of USB connection, there is no need for power supply and installation is easy and straight forward
- signals are instantly displayed on the PC screen using analog or DVM display
- USB cable included
- PC-LAB2000 Software included
- comes with enclosure

SPECIFICATIONS :

- hardware :
  - USB connected and powered
  - four DC coupled input channels
  - input resistance : 1Mohm
  - maximum samples per second : 100
  - four input ranges : 3V / 6V / 15V and 30V
  - sensitivity : 10mV
  - accuracy : ″ 3% of full scale
  - maximum input : 30V DC
  - power and recording/diagnostic LED
- software :
  - analogue trace or digital DVM readout
  - 4 simultaneous channels recording
  - minimum / maximum sample hold function for DVM
  - from 1 sec to 1000 sec per division
  - storage and recall of screens (full color) or data
  - automatic recording option for long time recordings
  - on screen markers for time and voltage
  - DLL included for own development
- system requirements :
  - PC, running Win98SE or higher (does not work on WinNT or Win95)
  - free USB port
  - mouse
  - CD-rom player

POCKET AUDIO GENERATOR ▸▸ K8065

Great little gadget for service, repair, testing, education, etc...

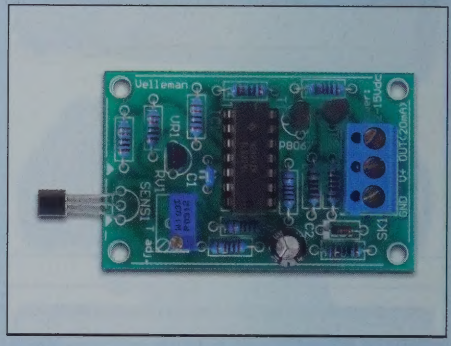
FEATURES :

- microprocessor technology
- digital waveform generation

SPECIFICATIONS :

- sine wave : 50Hz, 100Hz, 1KHz, 10KHz, 20KHz
- burst : 50Hz, 100Hz, 1KHz
- burst mode : 20ms ON, 500ms OFF
- noise : 32-bit digital pink noise
- output level (10Kohm) : 0 to 775mV (0dB)
- outputs : 2 x RCA (cinch)
- power supply : 2 x CR2016 or CR2025 battery (excl.)
- dimensions : 3.4" x 2.0" x 1.0"

GENERAL PURPOSE TEMPERATURE SENSOR ▸▸ K8067



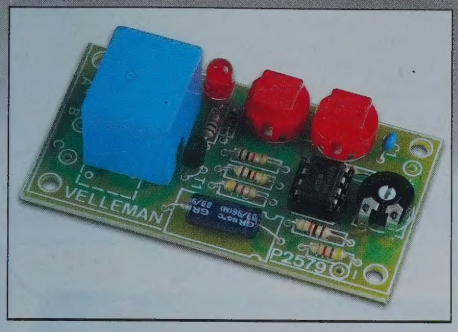
Applications : measure indoor and outdoor temperatures, control heating and/or cooling of rooms, equipment, etc... Monitor temperatures in processes, put a temperature readout on your website, check your pools temperature, ...

SPECIFICATIONS :

- range : -20± ~ +70±C
- output : 0 ~ 20mA current loop
- output voltage compliance : 10V
- accuracy : 2± full range
- one single adjustment
- 3-wire system : GND, +V and OUT
- power supply : 12VDC for 0 ~ 5V OUT / 15VDC for 0 ~ 10V OUT
- current consumption : 30mA max.
- dimensions : 55 x 35 x 15mm (2.2" x 1.4" x 0.6")

TIMERS & CONTROLLERS

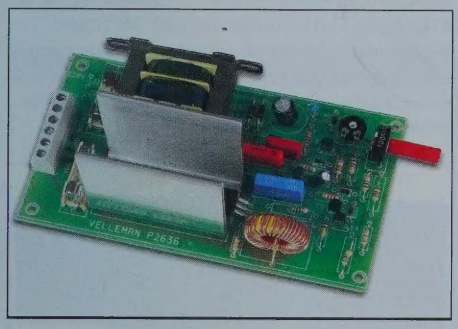
UNIVERSAL START/STOP TIMER ▸▸ K2579



Miniature timer for all applications requiring a delay of up to 60 minutes. The control range may be adjusted.

SPECIFICATIONS :
- power supply : 15V DC / 55mA
- relay : 3A / 220V switchable
- time interval (without modifications) : adjustable from 0 to 15 minutes
- PCB dimensions : 1.5" x 2.7"

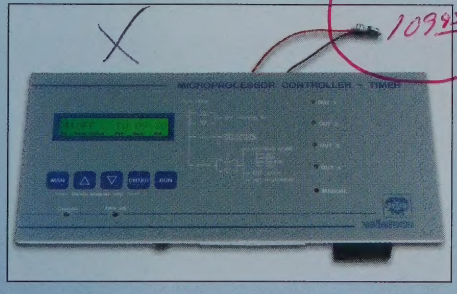
SPEED CONTROLLER ▸▸ K2636



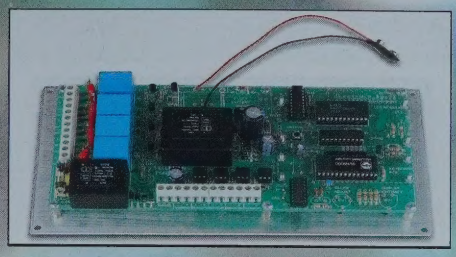
Designed to control AC motors with carbon brushes (drilling machine, vacuum cleaner, saw, &). High torque, even at low r.p.m. May also be used for low voltage loads (24V). Supply and load circuit electrically isolated from one another.

SPECIFICATIONS :
- voltage supply : 110-240V
- load voltage : 24-240V AC / 5.5A max.
- adjustable minimum r.p.m.
- low interference level
- range : 5-95%
- PCB dimensions : 5.1" x 3.0"

MICROPROCESSOR CONTROLLER/TIMER ▸▸ K6000RS

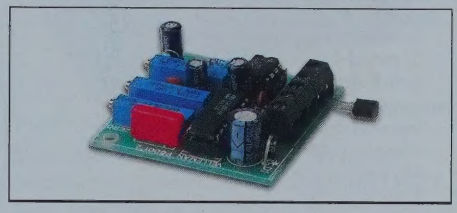


This marvelous controller does not just have the features of a conventional week/day timer; it can also be used to control temperature independently with one or all four outputs. For temperature measurements the K6001 (see p.17) or K6003 (see p.17) sensor is required for each measuring point (max. 4). The advantage of these sensors is that temperature may be measured far from the actual controller. The controller displays a message when a sensor is out of order and will switch off the corresponding output. The controller/timer is equipped with an LCD display, where all data, such as output number, temperature or on/off, day and time are displayed.



SPECIFICATIONS :
- 4 noise-free relay outputs : max. 5A
- 4 optocoupler inputs for temperature sensors K6001 (see p.17) or K6003 (see p.17)
- 50 program steps per output (total 200)
- week or day programming possible
- supply voltage : 110V AC
- memory back-up : 24 hours with 9V battery / 8 hours with 4.8V NiCd battery
- dimensions (front panel) : 9.21" x 4.72", depth 1.97"
- transformer included

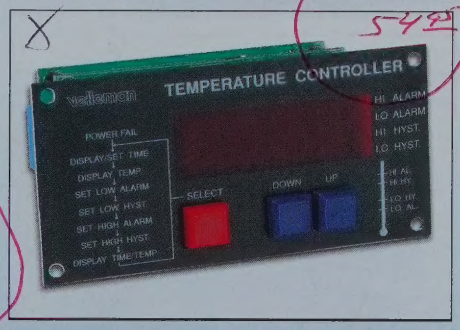
TEMPERATURE SENSOR ▸▸ K6001



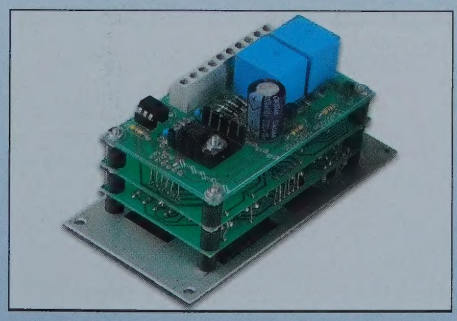
This kit has been developed especially to be combined with the K6000RS (see p.17) or K6002 (see p.17) to build a temperature regulation and control system. The advantage of a separate sensor lies in the fact that the distance between the actual controller and the sensor is of no importance.

SPECIFICATIONS :
- sensor temperature range : -40±F to 302±F
- pulse width modulation : 200µsec/±F
- linearity from -10±C(14±F) to 50±C(122±F) : better than 0.5%
- tested up to 164' (distance between sensor PCB and controller)
- supply voltage : 12V DC (" 2V) non-regulated
- current : 20mA max.
- PCB dimensions : 1.8" x 1.9"

TEMPERATURE CONTROLLER ▸▸ K6002

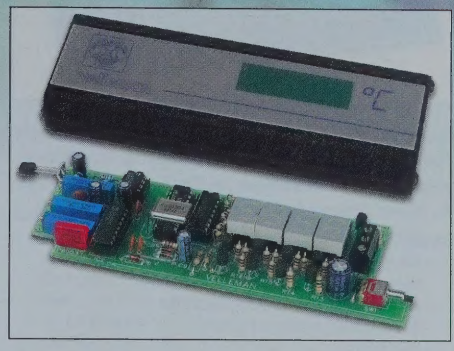


Unlike a normal thermostat, this kit has two outputs, one for "high" alarm, e.g. to switch on the air conditioning, and one for "low" alarm, e.g. to switch on the central heating. Both alarms are adjustable independently, each with their own hysteresis. Sensor K6001 (see p.17) included.



SPECIFICATIONS :
- relay outputs : 5A / 220V AC switch-over contact
- resolution : " 0.2±F
- display from -40±F to 302±F
- 24-hour clock (50Hz mains frequency)
- alarm setting : from -58±F to 309±F
- separate optocoupled sensor input (for K6001 (see p.17))
- power supply : 9V AC / 300mA
- front panel dimensions : 2.4" x 4.6", 3.2" depth

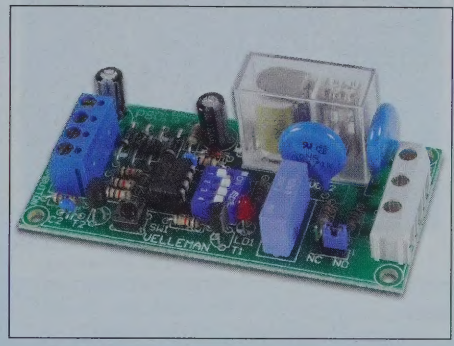
TEMPERATURE SENSOR WITH LED DISPLAY ▸▸ K6003



This temperature sensor has the same features as the K6001 (see p.17) . In addition, it has an LED display, showing the following three items : 1) Current temperature reading ; 2) Minimum temperature setting ; 3) Maximum temperature setting. A splendid aluminum housing with front sticker is included.

SPECIFICATIONS :
- min. and max. thermometer
- sensor temperature range : -58±F to +302±F
- can be set to degrees Celsius
- display : 3 ½ digits (0.1± display resolution)
- power supply : 12 to 15V DC / 150mA
- dimensions : 5.7" x 2.0" x 0.9"
- recommended adapter : -

MULTIFUNCTION RELAY SWITCH ▸▸ K8015



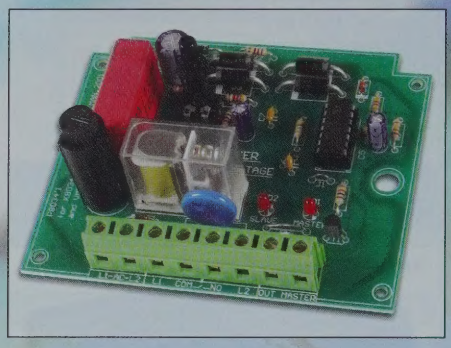
14 different functions including timers, switching, flashing, interval, random switching, ... Two pre-programmed delays. Learning mode for delays of 2s up to 12 days. Pushbutton control. EEPROM for delay time storage in case of power failure. On-board transient filter for the relay contacts. Suitable for control of incandescent lighting, halogen lighting, fluorescent lighting, fans, valves, buzzers,...

FEATURES :
- also available as plug-in module : k8008 (see p.47) for K8006 (see p.46) base unit for modular light system

SPECIFICATIONS :
- operating voltages : 9-12V AC or 12V DC
- max. load : 2.5A (275W / 110V)
- recommended housing : G410
- dimensions pcb : 3.4" x 1.5" x 1.0"

A

AC POWER SLAVE MODULE ▸▸ K8034

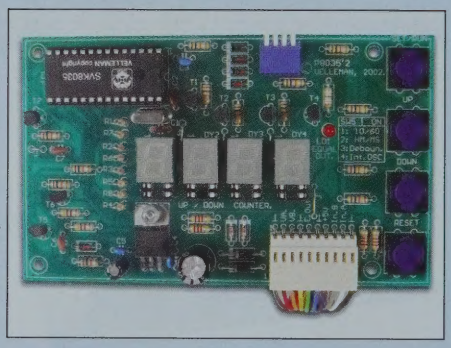


The purpose of this kit is to activate and deactivate several electrical appliances simultaneously. By operating one single switch you can not only activate e.g. your pre-amplifier but also your power amplifier, CD or DVD player, etc. You can even operate a fan and a lamp simultaneously.

FEATURES :
- detects small resistive and inductive loads
- adjustable sensitivity
- protected against current variations in master load
- relay contacts with inductive kick protection
- power indication

SPECIFICATIONS :
- Master + Slave (powered by module) :
  - AC power : 115 or 230V AC
  - max. load : 2A (500W / 230V AC - 250W / 115V AC)
- Slave only (powered externally) :
  - AC power : 115 or 230V AC
  - max. load : 5A (1100W / 230V AC - 550W / 115V AC)
  - minimal detectable LOAD : 5W
- dimensions : 4.2" x 4.0" x 1.8"
- weight (net) : 6.6 oz.

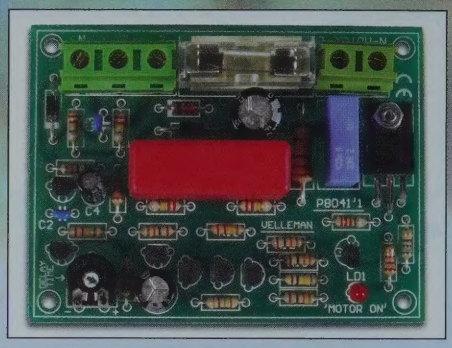
MULTIFUNCTIONAL UP/DOWN COUNTER ▸▸ K8035



FEATURES :
- comes in handy for people counting, part counting, score keeping, ...
- counts up or down
- count input through on-board pushbuttons or by external pulses
- display modes : normal or time (hh:mm and mm:ss)
- an internal oscillator allows time measurement
- programmable pre-set value with equal output
- self diagnostic at power up
- comes with easy board-to-wire connector (20cm wire)
- optional bezel enclosure : B8035

SPECIFICATIONS :
- counter input voltage : 3...12V DC (normal dry contact also possible)
- EQUAL output : 5V DC / max. 50mA
- max. counting speed : 200 / sec. (2 / sec. with long debounce delay)
- max. count : 4 digits (9999 / 23h59m / 59m59s)
- power supply : 9 - 12V DC or transformer 2 x 9V AC / 300mA
- power consumption : 150mA max.
- dimensions : 4.9" x 3.0"

FAN TIMER ▸▸ K8041

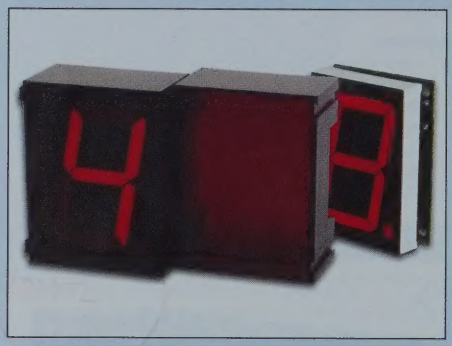


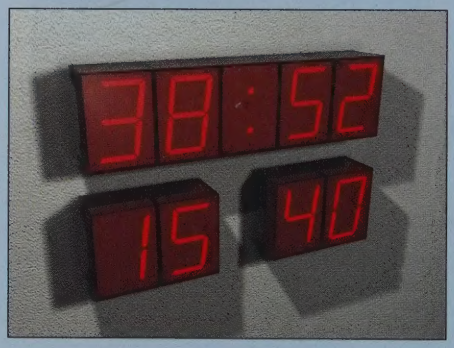
Using this kit it is possible to switch on a fan (ventilator) together with the light. The fan will continue to run for a period of up to 5min (adjustable) after the light has been turned off. Very well suited for toilet or kitchen ventilation.

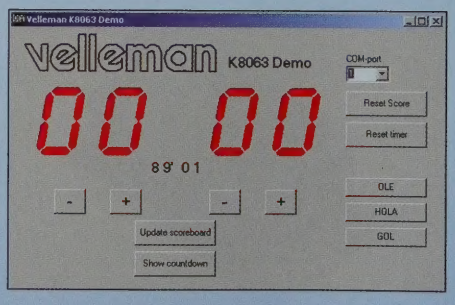
FEATURES :
- suitable for most types of ventilators
- solid state switching with noise suppression
- can be connected to existing installation
- LED function indication
- an also be used without light as fan delay timer

SPECIFICATIONS :
- power supply : 110 to 240V AC (50/60Hz)
- maximum load : 200W
- delay range : from 10sec. to 5min.
- dimensions : 3.2" x 2.4"

2 MODULAR DIGITS WITH SERIAL INTERFACE ▸▸ K8063



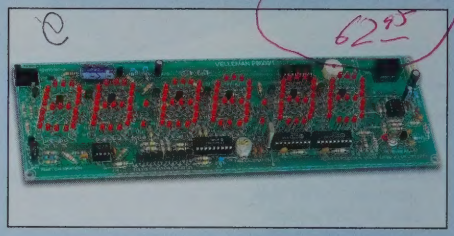




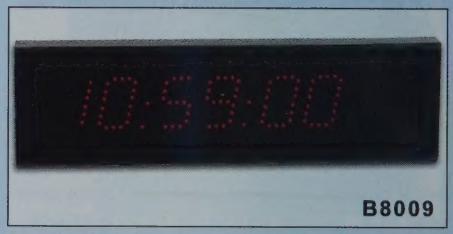
FEATURES :
- bright, red, jumbo-sized 7-segment displays (57mm).
- complete with snap-in enclosure
- multiple units can be linked in an easy way to create larger readouts for e.g. score-keeping, timing, counting, ...
- easy platform-independent control via RS232 three-wire interface
- up to 255 units can be separately addressed
- tested with distances of up to 50m between PC and displays
- for USB connection use our optional PCUSB6

SPECIFICATIONS :
- power supply : 9 to 12Vdc / 120mA per display
- RS232 interface : 2400baud / 8 data bits / no parity / 1 stop bit
- dimensions : 74 x 58.5 x 32mm (2.9" x 2.3" x 1.3")

MULTIFUNCTIONAL CLOCK ▸▸ K8009



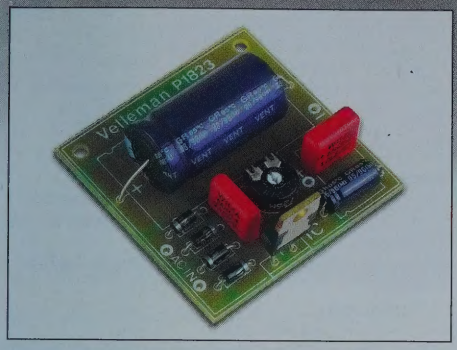
6 x 1.42" high digits. Time, Date & temperature indication, selectable with toggle option. 1 sec. resolution chronometer with lap function. Count down function to a specific date, the last day H:M:S are displayed. Scoreboard function (two players or teams, count up to 199). Random generator from 00 to 99. 2 digit dice. Count function. Chime beep option. Relay output for temperature control or time alarm. US or Europe display option for time, date, degrees Celsius or Fahrenheit format. All functions and settings are wireless remote controlled (wired remote is possible). Optional enclosure type B8009 . Optional extra remote control type K6706B or K6706G .



SPECIFICATIONS :
- fixed 433.92MHz transmitter frequency, as required by law
- keychain remote control included
- temperature indication : from -4±F to +158±F (resolution 1±)
- temperature indication : from 32±F to +302±F (resolution 2±)
- memory backup option : 9V battery or rechargeable battery
- relay output : 1A / 24V max.
- power supply : 12V DC / 300mA
- PCB dimensions : 10.0" x 3.2"
- recommended housing : B8009
- optional remote control : K6706B or K6706G

POWER SUPPLIES & CHARGERS

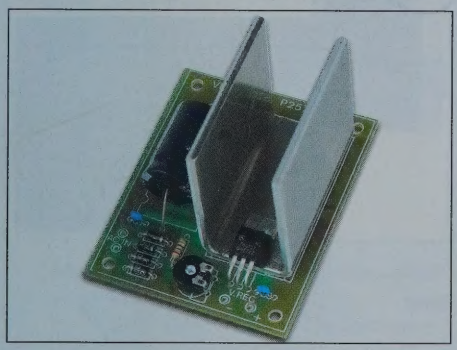
1A POWER SUPPLY KIT ▸▸ K1823



This small power supply provides a regulated voltage, adjustable between 1.5 and 35 volts at 1 Amp. With the LM317 regulator remarkably better ripple and regulation characteristics are given than with conventional regulators. Current limiter and thermal overload protection are included in the IC. Supplied without heatsink.

SPECIFICATIONS :
- output current : 1.5A max.
- max. dissipation : 15W (cooled)
- max. input voltage : 40V DC
- PCB dimensions : 2.1" x 2.1"

UNIVERSAL POWER SUPPLY 5-14V DC / 1A ▸▸ K2570



Suits all Velleman kits requiring a regulated power supply between 5 and 12V DC, and no more than 1A.

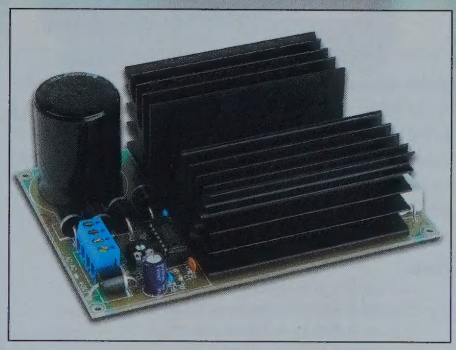
SPECIFICATIONS :
- input voltage : 7-16V DC / 1A
- output voltage : 5-14V DC, regulated
- output current : max. 1A
- power limitation and thermal overload protection
- max. dissipation : 7W
- PCB dimensions : 3.0" x 2.4"
- recommended housing : D40 or D40B

0-30V / 0-10A POWER SUPPLY ▸▸ K7200RS

A laboratory power supply is no doubt a valuable device both for the professional and amateur electronics engineer. Both a digital voltmeter and a digital ampere-meter are provided. Because of the integrated fan the power supply is capable of operating at full load for an extended time. Supplied complete with housing, knobs, transformers and K7201 digital display.

SPECIFICATIONS :
- output voltage : continuously adjustable from 0 to 30V
- output current : 8A continuous, 10A max. (limitation adjustable from 0 to 10A)
- LED indication for current limitation
- ripple max. : 0.5mVrms
- short-circuit protection
- power consumption : 300W max.
- voltage supply : 115V AC
- dimensions : 13.0" x 3.5" x 8.5"

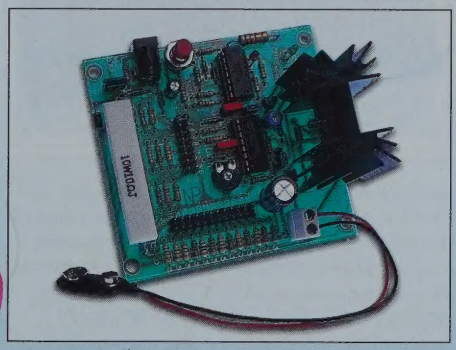
3 TO 30V / 3A POWER SUPPLY ▸▸ K7203



This kit is meant as an auxiliary or as a permanent power supply for all common Velleman kits based on a stabilized DC voltage between 3 and 30V provided that the consumption does not exceed 3A. Of course this power supply unit can also be used for other purposes. Be replacing the trimmer by a potentiometer, it may even be used as an adjustable power supply unit. Supplied with heatsink.

SPECIFICATIONS :
- output voltage : adjustable from 3 to 30V, stabilized
- output current : max. 3A
- output ripple voltage : 0.5mV
- short-circuit stable
- overload protected
- input voltage : 9 to 30V AC (depending on the desired output voltage)
- transformer not supplied
- dimensions : 5.1" x 3.6" x 2.0"

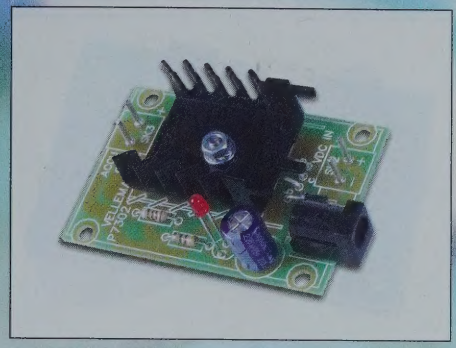
UNIVERSAL BATTERY CHARGER/ DISCHARGER ▸▸ K7300



Many battery chargers are available on the market, but few of them are universal chargers. Using our kit, NiCd and NiMH batteries or different can be charged both quickly (52 minutes) and normally (14 hours). In order to ensure that the battery is fully discharged prior to charging and thus has a longer life cycle, an automatic discharger is also fitted.

SPECIFICATIONS :
- charge current : from 15mA to 750mA (selectable)
- charges both NiCd and NiMH batteries
- usable battery voltages : 1.2V, 2.8V, 3.6V, 4.6V, 6V, 7.2V, 8.4V and 9.6V
- quick charge in 52 minutes / normal charge in 14 hours
- automatic discharge and charge cycle
- dimensions : 3.4" x 3.1"
- recommended housing : G311

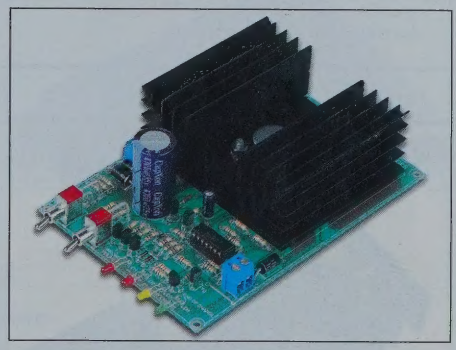
LOW COST UNIVERSAL BATTERY CHARGER ▸▸ K7302



Charges NiCd or NiMH batteries. Ideal for car use. Transforms a mains adapter in to a charger (adapter socket included). Charge cellular phone, toys, portables, video batteries, ... Selectable charge current. LED charge indication.

SPECIFICATIONS :
- charge current : 50mA, 100mA, 200mA, 300mA, 400mA (selectable)
- supply voltage : from 6.5V to 21V (depending on used battery)
- supply current : same as charge current
- power supply polarity protected
- LED function indication
- dimensions : 1.6" x 2.4"
- recommended housing : G403

LEAD-ACID BATTERY CHARGER/ CONDITIONER ▸▸ K8012



This lead-acid battery charger/conditioner is suitable for charging and maintaining both open and sealed type 6 or 12V lead-acid batteries. Charging current : 0.3 or 1A. The battery can be hooked-up to the unit for an indefinite time, and will be kept in optimal condition. Battery type and charge current are selectable, while the charging process is fully automatic.

SPECIFICATIONS :
- suitable for 6 and 12V open and sealed type lead-acid batteries
- charge current : 0.3 or 1A (selectable)
- status indicators for charge, float and end-of-charge
- can continuously remain hooked-up to the battery
- inverse polarity protection provided
- needs an 18V/25VA transformer (not included)
- PCB dimensions : 3.8" x 5.5" x 1.6"

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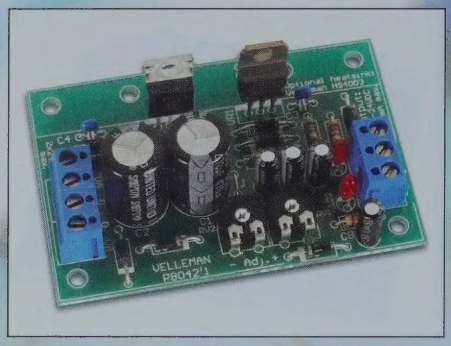
SYMMETRIC 1A POWER SUPPLY ▸▸ K8042

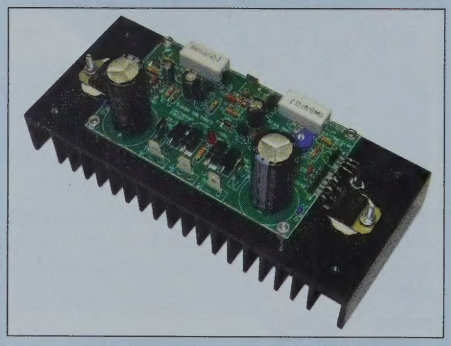


FEATURES :
- low cost universal symmetric power supply
- just add a suitable transformer and a heatsink
- ideal for e.g. op-amp applications, amplifiers, ...
- trimmers can be replaced by potmeters to allow continuous adjustment of output voltage
- LED output indicators
- compact size

SPECIFICATIONS :
- positive and negative output adjustable between 1.2 and 24VDC
- output current : up to 2 x 1A continuous (with suitable heatsink)
- max. input voltage : 2 x 24VAC
- very good line and load regulation
- low ripple
- short circuit protection
- thermal protection
- optional heat sink : HS4003 (for maximum 20W dissipation)
- dimensions : 3.1" x 2.0" x 0.9"

MODULES

200W POWER AMPLIFIER MODULE ▸▸ VM100



FEATURES :
- excellent value for money
- fully discrete design using Epitaxial Darlington transistors
- DC supply circuit on board with LED indication
- ideal for active speaker system or subwoofer, guitar amp, home theatre systems, instrument amp, etc.
- comes fully adjusted and tested
- overload and short-circuit protection

SPECIFICATIONS :
- 200W music power @ 4 ohm load
- 100Wrms power @ 4 ohm load
- 70Wrms power @ 8 ohm load
- distortion : 0.02% @ 1KHz/10W
- damping factor : >800
- frequency response : 3Hz to 200KHz (-3dB)
- sensitivity : 0.6Vrms
- signal to noise ratio : 115dB
- power supply : 25-30Vac 120VA
- PCB dimensions : 107x62mm (approx.)
- recommended power transformer :
  - 230VAC input, 2 x 30VAC output : 12030
  - 115 / 230VAC input, 2 x 25VAC output : TR8040 (output power reduced by ~15%)

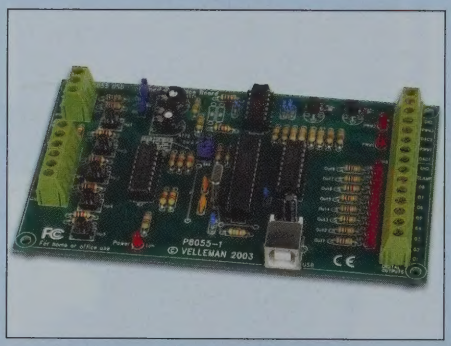
MULTIFUNCTIONAL COUNTER MODULE ▸▸ VM107

Ideal for counting people or parts, for keeping scores, etc... The HOURS:MIN and the MIN:SEC functions are also very practical (displays 23:59 & 59:59). A built-in oscillator makes it possible to time intervals without making use of an external oscillator (clock function). Counting impulses (addition & subtraction) can be given both through push buttons and the counting inputs. A memory function constantly compares the current value with a preset value and activates an output for as long as both are equal.

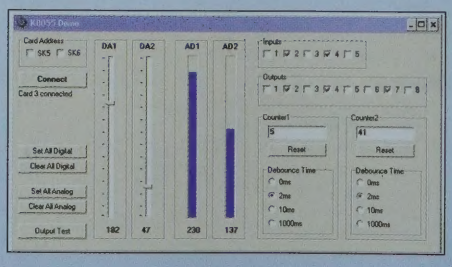
FEATURES :
- count input through on-board pushbuttons or by external pulses
- display modes : normal or time (hh:mm and mm:ss)
- an internal oscillator allows time measurement
- programmable pre-set value with equal output
- selectable input debounce delay

SPECIFICATIONS :
- counter input voltage : 3...12V DC (normal dry contact also possible)
- EQUAL output : 5V DC / max. 50mA
- max. counting speed : 200 / sec. (2 / sec. with long debounce delay)
- max. count : 4 digits (9999 / 23h59m / 59m59s)
- power supply : 9 - 12V DC or transformer 2 x 9V AC / 300mA
- power consumption : 150mA max.
- dimensions : 6.5 x 3.5" x 1.4"

USB INTERFACE CARD MODULE ▸▸ VM110



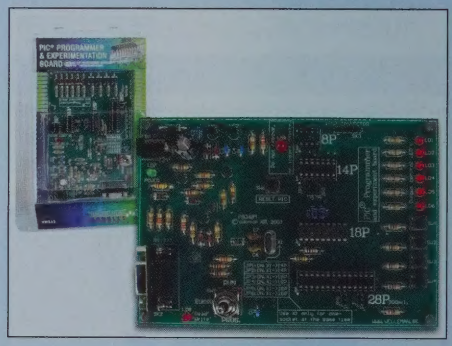
The VM110 interface board has 5 digital input channels and 8 digital output channels. In addition, there are two analog inputs and two analog outputs with 8 bit resolution. The number of inputs/outputs can be further expanded by connecting more (up to a maximum of four) cards to the PC's USB connectors. All communication routines are contained in a Dynamic Link Library (DLL) K8055D.DLL. You may write custom Windows (98SE, 2000, Me, XP) applications in Delphi, Visual Basic, C++ Builder or any other 32-bit Windows application development tool that supports calls to a DLL. Source code for Visual Basic, Delphi and Borland C++ Builder included.



FEATURES :
- minimum system :
  - Pentium class CPU
  - USB1.0 or higher connection
  - Windows 98SE or higher (Win NT excluded)
  - CD ROM player and mouse
- DIAGNOSTIC / TEST SOFTWARE :
  - separate output / input test7
  - clear all / set all function
  - counter function on inputs 1 and 2 with adjustable debounce (max 2KHz depends on total I/O load)
  - analog output set sliders
  - analog input bar-graph indication

SPECIFICATIONS :
- 5 digital inputs (0= ground, 1= open) (on board test buttons provided)
- 2 analog inputs with attenuation and amplification option (internal test +5V provided)
- 8 digital open collector output switches (max 50V/100mA) (on-board LED indication)
- 2 analog outputs :
  - 0 to 5V, output resistance 1K5
  - PWM 0 to 100% open collector outputs max 100mA / 40V (on-board LED indication)
- general conversion time : 20ms per command
- power supply : through USB approx. 70mA
- diagnostic software with DLL included
- dimensions : 5.7" x 3." x 0.8"

PIC® PROGRAMMER AND EXPERIMENT BOARD ▸▸ VM111

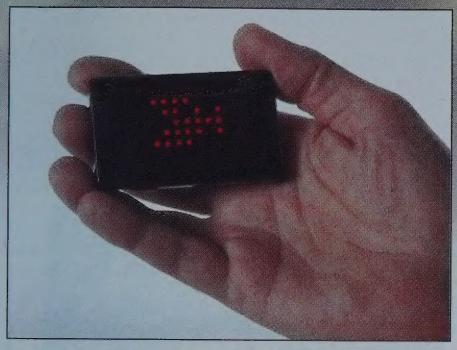


Suitable for programming Microchip® FLASH PIC(tm) microcontrollers.

FEATURES :
- supports 4 different 300 mil. PICs : 8p, 14p, 18p and 28p
- test buttons and LED indicators to carry out educational experiments, like with the enclosed programming examples
- easily connectable to a PC through the serial port
- enclosed is a Flash Microcontroller (PIC16F627) that can be reprogrammed up to 1000 times for experimenting at will
- software to compile and program your source code is included

SPECIFICATIONS :
- power supply : 12 or 15V DC, min. 300mA, non-regulated adapter (PS1208USA () (115Vac))
- IBM Compatible PC, Pentium or better, with Windows"! 95/98/ME/NT/2000/XP, CDROM and a free serial RS232 port (Cable not included, e.g. CW014)
- dimensions : 5.8" x 4.0"
- Rev 2.5 supports these microcontrollers :
  - PIC12F629, PIC12F675
  - PIC16C83, PIC16CR83, PIC16F83, PIC16C84, PIC16CR84,PIC16F84, PIC16F84A
  - PIC16F870, PIC16F871, PIC16F872, PIC16F873, PIC16F873A, PIC16F874, PIC16F874A, PIC16F876, PIC16F876A, PIC16F877(A)(ICSP only)
  - PIC16F627, PIC16F627A, PIC16F628, PIC16F628A, PIC16F648A
  - PICF630, PIC16F676
  - PIC16F818, PIC16F819

PERSONAL ANIMATED BADGE ▸▸ VM112

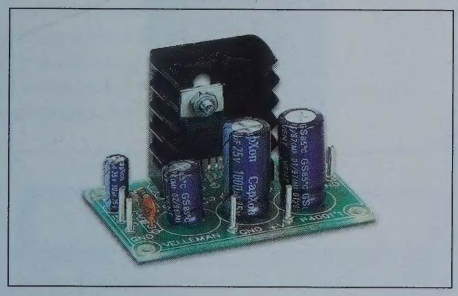


Great for parties, at the disco, advertisements, trade shows ...

FEATURES :
- create your own graphic animations on a badge
- draw the animation using supplied software and send the animations to the badge (using RS232)
- 8 animations of 25 frames can be stored in the badge and simply selected
- adjustable animation speed
- two brightness levels
- sample animations supplied
- package includes :
  - RS232 cable
  - manual
  - CD with movie editor software and examples
  - 1 x CR2032 battery

SPECIFICATIONS :
- power supply : 1 x 3.0V CR2032 battery (incl.)
- battery life : more then 50 hours
- dimensions : 80 x 48mm (3.1" x 1.9")

ASSEMBLED 7W AMPLIFIER ▸▸ VM114

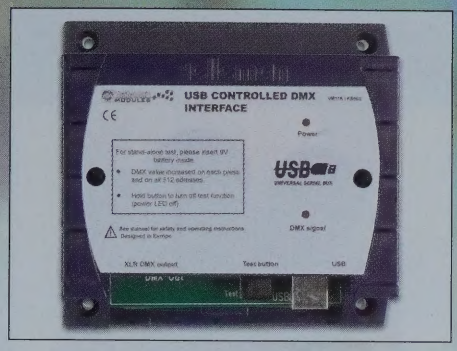


This small amplifier is constructed around the TDA2003 IC, capable of delivering 4Wrms at 4ohms. The IC is completely thermally and short-circuit protected. A conventional direct current can be connected as supply.

FEATURES :
- also available in kit version : K4001 (see p.34)

SPECIFICATIONS :
- music power output : 7W / 4ohm
- output : 3.5Wrms / 4ohm or 2Wrms / 8ohm
- total harmonic distortion : 0.05% (1W / 1kHz)
- frequency response : 20Hz to 20kHz (-3dB)
- signal-to-noise ratio : 86dB (A weighted)
- input sensitivity : 40mV / 150Kohm
- overload and short-circuit protected
- supply voltage : 15V DC (8 to 18V DC possible) / 0.5A
- dimensions : 2.2" x 1.4"
- recommended adapter : PS1208USA

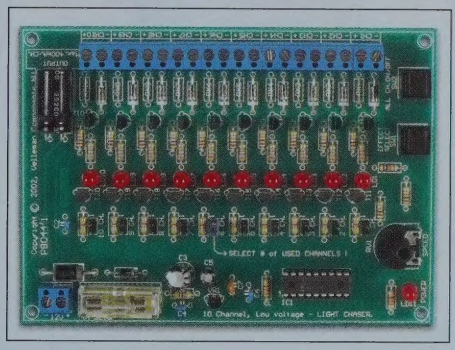
USB CONTROLLED DMX INTERFACE ▸▸ VM116



FEATURES :
- this unit can control DMX fixtures using a PC and USB interface
- test software and "DMX Light Player" software is included, a DLL is provided to write your own software
- furthermore there is a stand-alone test function that outputs all 512 channels at a time, with adjustable levels
- kit includes :
  - nice enclosure
  - USB cable
  - CD with : test software, DLL for own developments, free DMX light player

SPECIFICATIONS :
- connected and powered through USB
- 512 DMX channels with 256 levels each
- 3 pin XLR-DMX output connector
- Windows 98SE or higher compatible
- DLL included to write your own software
- optional 9V battery needed for stand alone test mode
- solid state - fuse protection on DMX output
- dimensions : 4.2" x 4.0" x 1.8"

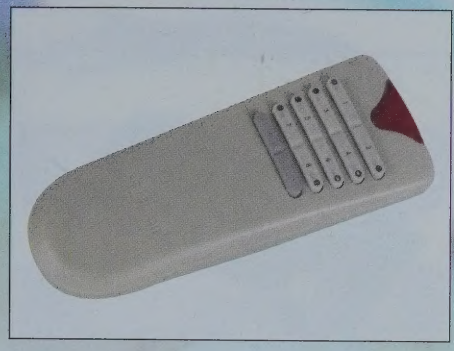
10-CHANNEL 12VDC LIGHT EFFECT GENERATOR ▸▸ VM120



FEATURES :
- ten 12V/400mA outputs to control cold-cathode fluorescent lamps (using FLPS adapter), light bulbs, LEDs and "solid state" relays, ...
- for use with advertisement lighting, party lights, eye-catchers, in the disco...
- ten pre-programmed light patterns selectable with a push button
- the number of used channels is adjustable
- the last used lighting effect is saved in non-volatile memory
- adjustable speed
- LED indication for every output
- 12V operation possible for use in cars
- in option :
  - adapter : PSS1255 () (12V output 5.5A)
  - power supply for cold-cathode fluorescent lamps : FLPS () (300mm) or FLPS1 () (100mm)
  - cold-cathode fluorescent lamps : FL(xx) - (100 or 300mm)
  - solid-state relays : VR25SS1A or VR3SS1A to drive mains voltage lamps

SPECIFICATIONS :
- power supply : 12V DC
- outputs : 12V DC / 400mA per channel (total : max 4A)
- dimensions PCB : 140 x 100 x 27mm (5.5" x 3.9" x 1.1")

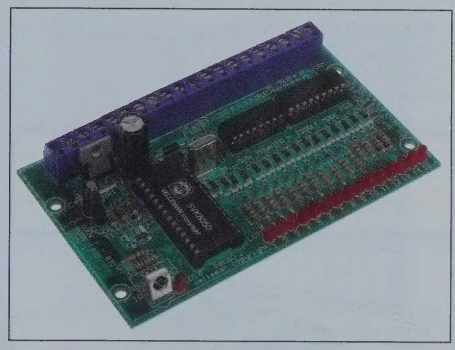
15-CHANNEL INFRARED TRANSMITTER ▸▸ VM121



FEATURES :
- works together with the VM122 (see p.21) 15-channel receiver
- allows the use of multiple receivers in one room

SPECIFICATIONS :
- power supply : 3 AAA batteries (not incl.)
- up to 15 channels can be operated
- rubber keypad
- LED function indication
- also compatible with most Velleman IR receiver kits
- range transmitter - receiver : up to 20m

15-CHANNEL INFRARED RECEIVER ▸▸ VM122



FEATURES :
- works together with our VM121 (see p.21) and VM123 transmitters
- 4 different output modes
  - 15 independent outputs
  - 15 radio (rotary simulation) outputs
  - 7 independent outputs & 8 rotary outputs
  - 7 rotary outputs & 8 rotary outputs (independent from each other)
- allows the use of multiple receivers in one room

SPECIFICATIONS :
- power supply : 8 -14VDC or 2x6 to 2x12VAC (150mA)
- 15 open collector contacts : max. 50V/50mA
- transmitter - receiver range : up to 20m
- current consumption :
  - all outputs off : 10mA
  - all outputs on : 150mA

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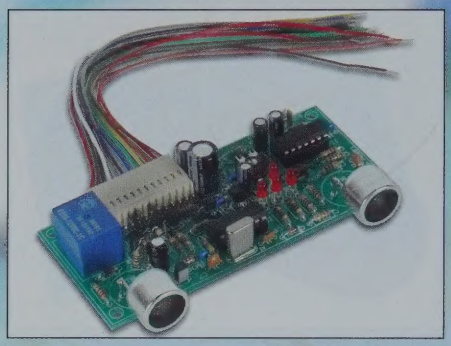
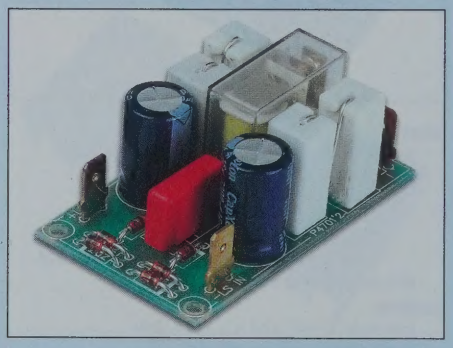
ULTRASONIC RADAR MODULE ▸▸ VM125



FEATURES :
- buzzer output : fast / slow / continuous
- distance indication with 3-LED-bar
- adjustable alarm distance
- LED alarm indicator
- dry contact NO/NC relay
- applications : robot projects, object detection, distance measuring, parking aid, security systems

SPECIFICATIONS :
- range : 20 ... 250cm
- frequency : 40kHz
- digital output : 5V (50mA max.)
- analog output : 0...5V (5mA max)
- buzzer output : 12V (100mA max.)
- relay contacts : 1A low voltage NO/NC
- power supply : 12VDC
- current consumption : 200mA max.
- dimensions : 4.3" x 2.0" x 0.7"

DC PROTECTIONS FOR LOUDSPEAKERS



The burnout of a power amplifier's output stage nearly always results in a dangerous direct current to the loudspeaker's terminals. In turn, this results in a loudspeaker burnout. This protection unit requires no additional power supply and is simply mounted between the loudspeaker leads in the speaker housing. The speakers will be disconnected immediately when a direct current is present. Ideally suited for in-car use.

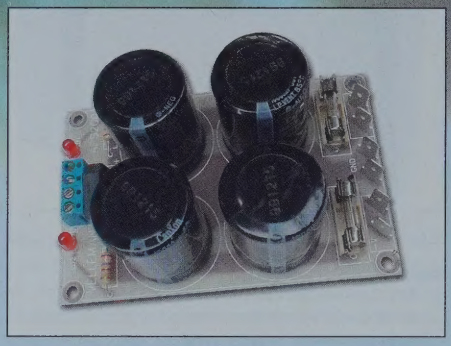
FEATURES :
- also available in kit version : K4701 (see p.36)

SPECIFICATIONS :
- input voltage : 90V DC max.
- contact current : 10A max.
- safety voltage : 10V DC min.
- dimensions : 1.6" x 2.6"
- recommended housing : G410

part name	
M4701B	for loudspeakers of 300W max.

MOUNTED KITS

POWER SUPPLY MODULE FOR K4004 AND K4005 ▸▸ APS200



needs transformer :

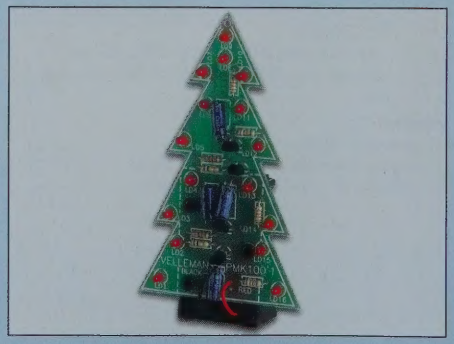
kit	speaker	power supply	transformer
K4005	2 x 8ohm	2 x 30VAC / 225VA	type 22530
K4005	2 x 4ohm	2 x 21VAC / 300VA	type 30021
K4005	1 x 8ohm	2 x 21VAC / 300VA	type 30021
K4004	2 x 8ohm	2 x 18VAC / 160VA	type 16018
K4004	2 x 4ohm	2 x 18VAC / 225VA	type 22518
K4004	1 x 8ohm	2 x 18VAC / 225VA	type 22518

SOLDERING STARTER KIT WITH LEAD-FREE SOLDER - 110V ▸▸ K/STARTULF

Ideal for beginners.

FEATURES :
- contains :
  - soldering iron : VTS20U (20W / 110V AC)
  - solder : lead-free solder
  - soldering iron holder : STANDLC
  - pair of wire-cutters : VT057
  - flashing LEDs : MK102 (see p.6)
  - LED light organ : MK103 (see p.6)

ELECTRONIC CHRISTMAS TREE (MOUNTED) ▸▸ MMK100



Never was Christmas so congenial ! 16 blinking LEDs.

FEATURES :
- also available in kit version : MK100 (see p.6)

SPECIFICATIONS :
- very low power consumption : max. 4mA
- power supply : 9V battery (not incl.)
- dimensions : 2.4" x 3.9" x 1.0"

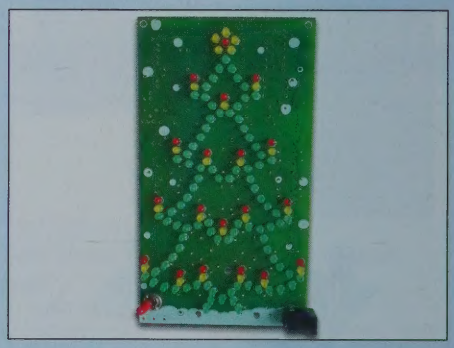
RIDING SANTA (MOUNTED) ▸▸ MMK116

126 LED multicolor animated Xmas gadget. No need to remove battery when using external supply. 12V operation possible for use in cars, vans, trucks. On/off switch included.

FEATURES :
- also available in kit version : MK116 (see p.6)

SPECIFICATIONS :
- power supply : 9 to 12V DC or 9V alkaline battery (not incl.)
- dimensions : 3.2" x 5.7"

DE LUXE XMAS TREE (MOUNTED) ▸▸ MMK117



Beautiful tree consisting of 134 LEDs. 18 randomly blinking candles. No need to remove battery when using external supply. 12V operation possible for use in cars, vans, trucks. On/off switch included.

FEATURES :
- also available in kit version : MK117 (see p.6)

SPECIFICATIONS :
- power supply : 9 to 12V DC or 9V alkaline battery (not incl.)

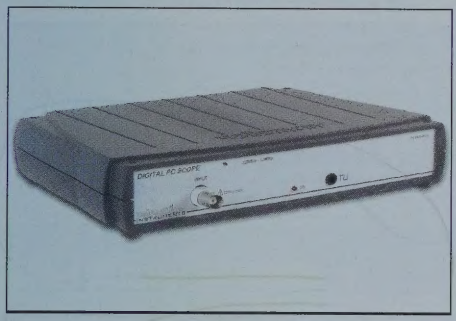
HIGH-END HIFI PRODUCTS

velleman® high-end audio

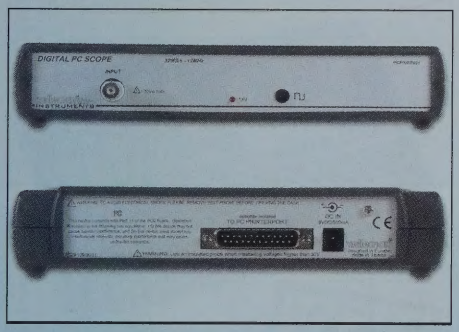
VELLEMAN INSTRUMENTS (MEASUREMENT PRODUCTS)

velleman® INSTRUMENTS

DIGITAL STORAGE SCOPES FOR PC - 32MS/s

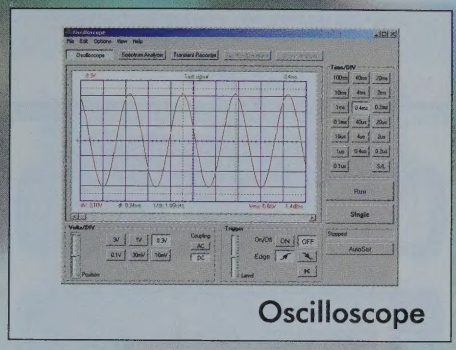


The PCS100 is a digital storage oscilloscope, using a computer and its monitor to display waveforms. All standard oscilloscope functions are available in the Windows program supplied. Its operation is just like a normal oscilloscope. Connection is through the computer's parallel port, the scope is completely optically isolated from the computer port.

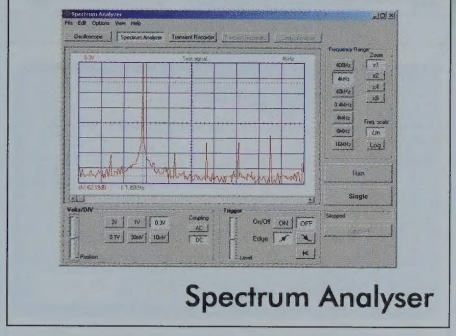


FEATURES :

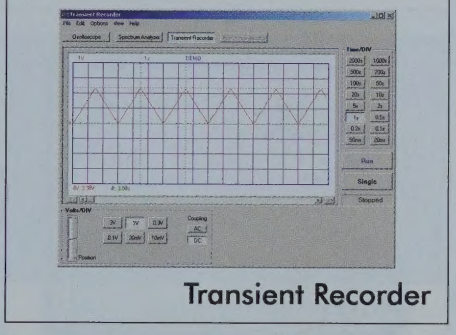
- general :
  - 1 channel
  - input impedance : 1Mohm / 30pF
  - frequency response : 0Hz to 12MHz (-3dB)
  - step markers for voltage, time and frequency
  - vertical resolution : 8 bit
  - auto setup function
  - optically isolated from computer
  - record and display of screens & data
  - supply voltage : 9 - 10V DC / 500mA
  - dimensions : 9" x 6.5" x 1.8"
  - weight : 14oz
- minimum system requirements :
  - IBM compatible PC
  - Windows 95, 98, ME, (Win2000 or NT possible)
  - SVGA display card (min. 800x600)
  - mouse
  - free printer port LPT1, LPT2 or LPT3
  - CD Rom player
- options :
  - soft carry case : GIB
- comes with : 1 insulated measurement probe x1 / x10 (PROBE60S ())



Oscilloscope



Spectrum Analyser



Transient Recorder

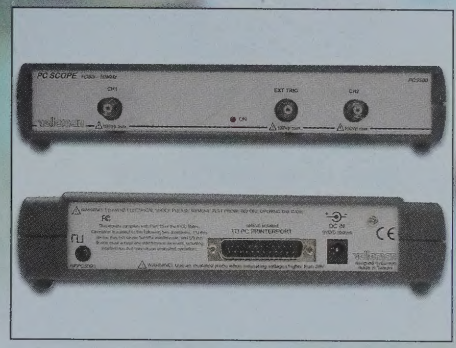
SPECIFICATIONS :

- oscilloscope :
  - timebase : 0.1µs to 100ms per division
  - trigger source : CH1 or free run
  - trigger level : adjustable per ½ division
  - input sensitivity : 10mV to 3V per division
  - record length : 4096 samples
  - sampling frequency : 800Hz to 32MHz (Real time)
  - true RMS readout (only AC component)
- transient recorder :
  - timescale : 20ms/div to 2000s/div
  - max record time : 9.4hour/screen
  - automatic storage of data
  - automatic recording for more than 1 year
  - markers for time and amplitude
  - zoom function
- spectrum analyzer :
  - frequency range : 0 .. 400Hz to 16MHz
  - linear or logarithmic timescale
  - zoom function

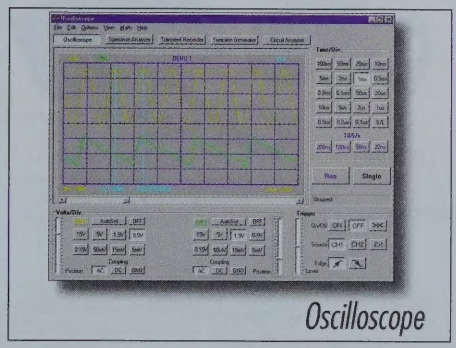
part name	comes with adapter
PCS100AU	yes (110V)

9985

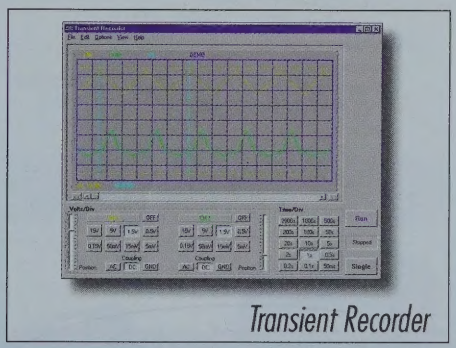
DIGITAL STORAGE SCOPES FOR PC - 1000MS/s



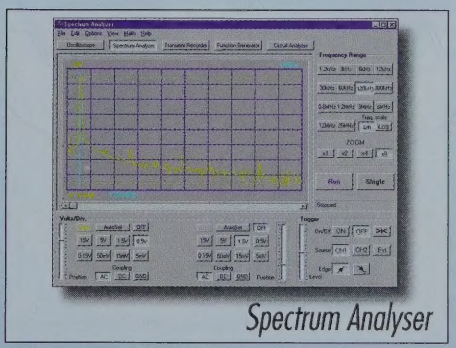
The PCS500 is a digital storage oscilloscope that uses a computer and its monitor to display waveforms. All standard oscilloscope functions are available through the supplied Windows program. Its operation is identical to that of normal oscilloscope apart from the fact that all operations can be performed with the mouse. Connection is through the computer's parallel port and the scope is completely optically isolated from the computer port. The oscilloscope and transient recorder have two completely separated channels with a sampling frequency up to 1GHz. Any waveform displayed on the screen can be stored for later use in documents or for the comparison of waveforms.



Oscilloscope



Transient Recorder



Spectrum Analyser

FEATURES :

- oscilloscope :
  - timebase : 20ns to 100ms per division
  - trigger source : CH1, CH2, EXT or free run

A

- trigger edge : rising or falling
- trigger level : adjustable in steps of 1/2 division
- step interpolation : linear or smoothed
- markers for : voltage and frequency
- input sensitivity : 5mV to 15V / division with auto setup-function
- pre-trigger function
- true RMS read-out (only AC component)
- recording length : 4096 samples / channel
- sampling frequency :
  - real-time : 1.25kHz to 50MHz
  - repetitive : 1GHz
- spectrum analyzer :
  - frequency range : 0...1.2kHz to 25MHz
  - linear or logarithmic time scale
  - operating principle : FFT (Fast Fourier Transform)
  - FFT resolution : 2048 lines
  - FFT input channel : CH1 or CH2
  - zoom function
  - markers for amplitude and frequency
- transient recorder :
  - time scale : 20ms/div to 2000s/div
  - max. recording time : 9.4hours/screen
  - automatic data storage
  - automatic recording for more than 1 year
  - max. number of samples : 100/s
  - min. number of samples : 1 sample / 20s
  - markers for time and amplitude
  - zoom function
  - recording and display of screens
  - data format : ASCII

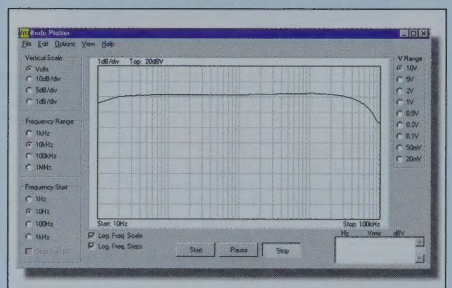
SPECIFICATIONS :

- general information :
  - inputs : 2 channels, 1 external trigger input
  - input impedance : 1Mohm // 30pF
  - frequency response : 0Hz to 50MHz (-3dB)
  - max. input voltage : 100V (AC + DC)
  - input coupling : DC, AC and GND
  - optically ISOLATED from computer
  - supply voltage : 9-10V DC / 1000mA
- minimum system requirements :
  - IBM compatible PC
  - Windows 95, 98, ME (Win2000 or NT possible)
  - SVGA display card (min. 800x600)
  - mouse
  - free printer port LPT1, LPT2 or LPT3
  - CD-ROM player
- includes :
  - PCS500 unit
  - 2 probes
  - PC parallel cable
  - practical manual
  - CD with software

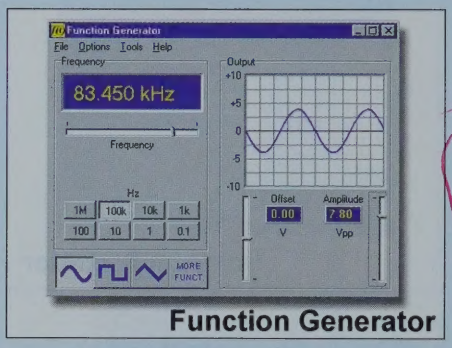
part name	comes with adapter
PCS500AU	yes (110V)

265.95

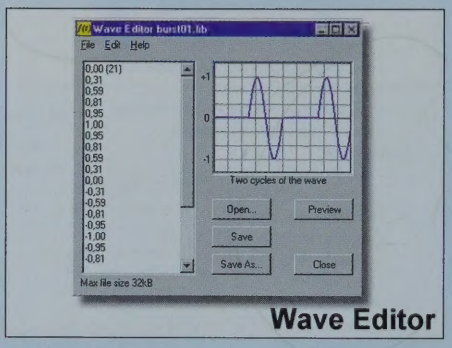
PC FUNCTION GENERATORS 0-1MHz



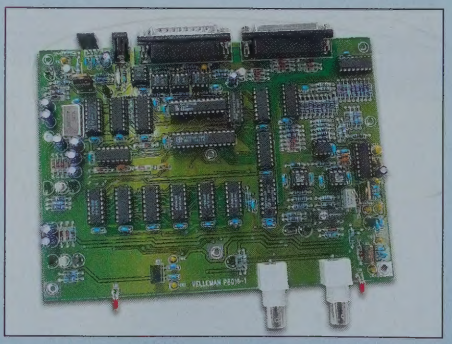
Bode Plot



Function Generator



Wave Editor



FEATURES :

- frequency range : from 0.01Hz to 1MHz
- crystal-based stability
- optically isolated from the PC
- low sine wave distortion
- TTL-level synchronization output
- stores up to 32K of waveform points
- standard waveforms : sine, square and triangle
- predefined library waveforms included : noise, sweep, ...
- includes Windows"! integrated software for the function generator and Velleman PC oscilloscopes
- you can create your own waveforms with the integrated signal wave editor
- can be chained with Velleman PC oscilloscopes to the same PC printer port (LPT1, 2 or 3)
- extended bode plot possibility, used with PC scopes PCS500AU (see p.24)
- function generator screen with signal preview
- kit-version available : K8016 (see p.15)

SPECIFICATIONS :

- power supply : standard 12V DC adapter, 800mA (PS1208 ())
- direct digital wave synthesis (DDS), 32K wave table
- distance control via RS232
- frequency setting resolution : 0.01%
- amplitude range : 100mVpp to 10Vpp @ 600ohm load
- amplitude resolution : 0.4% of full scale
- offset : from 0 to -5V or +5V max. (resolution 0.4% of full scale)
- vertical resolution : 8 bits (0.4% of full scale)
- maximum sample rate : 32MHz
- typical sine wave distortion (THD) : < 0.08%
- output impedance : 50ohm
- dimensions : 9.3" x 6.5" x 1.9"
- includes :
  - PCG10 unit
  - PC parallel cable
  - practical manual
  - CD with PCLab2000 software

99.95

part name	comes with adapter
PCG10AU	yes (110V)

PERSONAL SCOPE

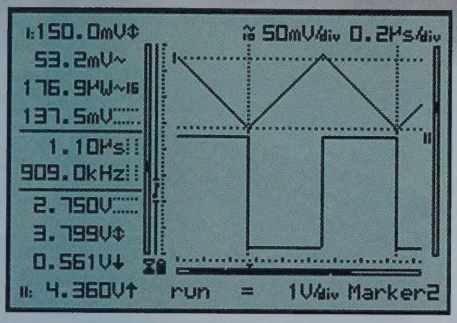
ADVANCED PERSONAL SCOPE 240MS/S ▸▸ APS230

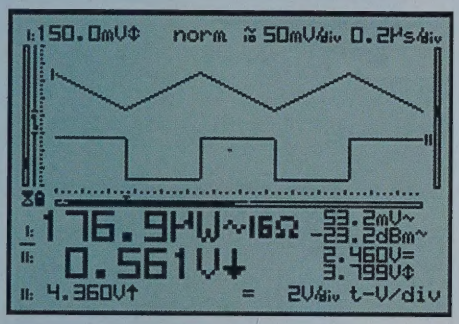
395.95

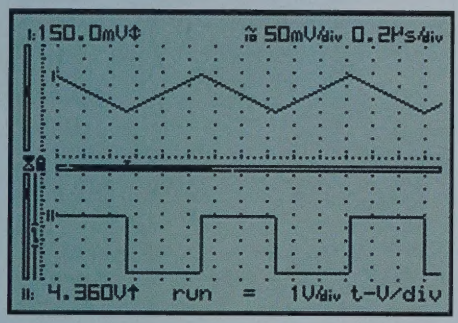
FEATURES :

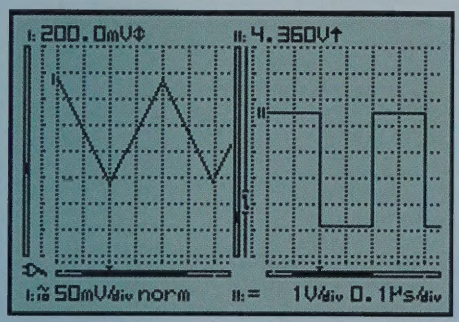
- 2 input channels
- high contrast LCD with white backlight
- full auto set-up for volt/div and time/div
- recorder roll mode, up to 170h per screen

- trigger mode : run - normal - once - roll ...
- adjustable trigger level and slope
- peak measurements : max, min. and pk to pk
- measurements : rms, dB(rel), dBV, dBm and dBG
- Direct Audio power measurements
- x1 and x10 probe calculation option
- several display modes
- StereoScope mode for audio measurement
- X and Y position shift
- battery pack included, fast charge possible







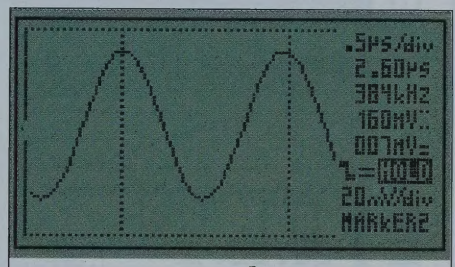


Specifications :

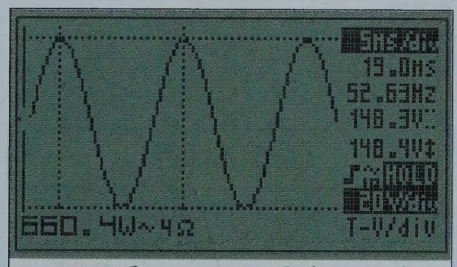
- input impedance : 1 Mohm / 20pF
- bandwidth : 2 x 30MHz
- sampling : 240MS/s per channel
- step markers for voltage, time, ...
- vertical resolution : 8 bit
- sensitivity : min. 30µV
- volts per division : 1mV to 20V/div
- time base : from 25ns to 1 hr/div
- AC/DC input coupling selection
- RS232 communication with PC (PCUSB6 for USB connection in option)
- dimensions : 9.1" x 5.9" x 2.0"
- weight : 30oz. incl. battery

PERSONAL SCOPE 10MS/S ▸▸ HPS10

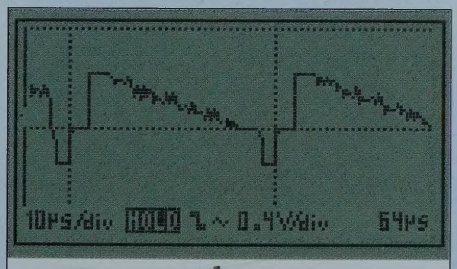
The Velleman Personal Scope is not a graphical multimeter but a complete portable oscilloscope at the size and the cost of a good multimeter. Its high sensitivity - down to 0.1mV/div - and extended scope functions make this unit ideal for hobby, service, automotive and development purposes. Because of its extreme value for money, the PersonalScope is well suited for educational use in schools and colleges. Suitable for measurements on audio equipment, mains voltage applications, digital signals, all kind of sensors, signal analysis in automotive applications, car stereo, etc& Its full auto setup function, makes measuring waveforms very easy.



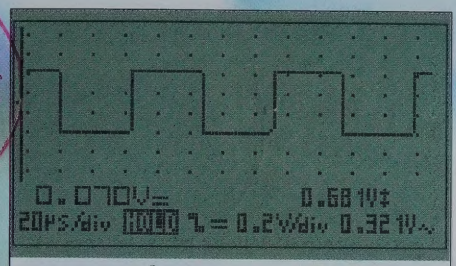
normal screen



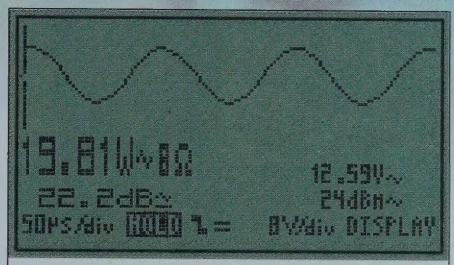
normal screen with large dvm



wide screen



wide screen with dvm



wide screen with large dvm

Features :

- 10MHz sampling rate
- 0.1mV sensitivity
- up to 2MHz analogue bandwidth
- 5mV to 20V/div in 12 steps
- 200ns to 1hour/div time base in 32 steps
- full auto set up
- trigger mode : run, normal, once, roll, slope +/-
- X and Y position signal shift
- DVM readout with x10 option
- audio power calculation (rms and peak)
- dBm, dBV, DC, rms ... measurements
- signal markers for Volt and Time
- frequency readout (through markers)
- recorder function (roll mode)
- signal storage (2 memories)
- LCD : 128x64 pixels / high-contrast
- up to 20h on alkaline batteries
- optional :
  - practical holster : BAGHPS
  - handcase : CASEHPS
  - adapter 9V / 500mA : PS905USA

Specifications :

- power supply : 5 x 1.5V AA battery or Nicd / NiMH (not incl.)
- includes battery charging circuit

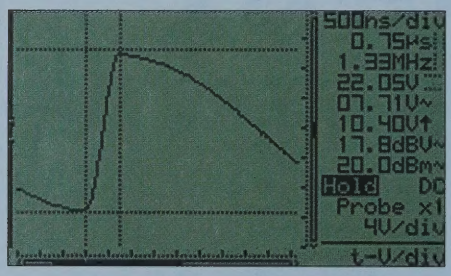
PERSONAL SCOPE 10MS/S - SPECIAL EDITION ▸▸ HPS10SE

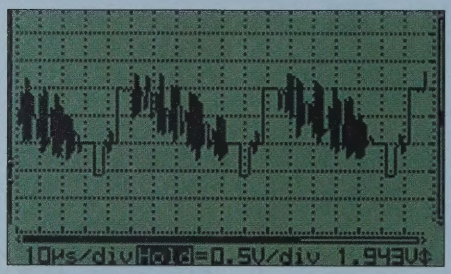
Same as the HPS10 (see p.25) , but with blue LCD, white backlight. Comes in a rigid carry case.

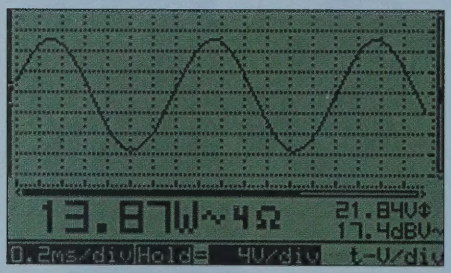
A

PERSONAL SCOPE 40MS/S ▸▸ HPS40

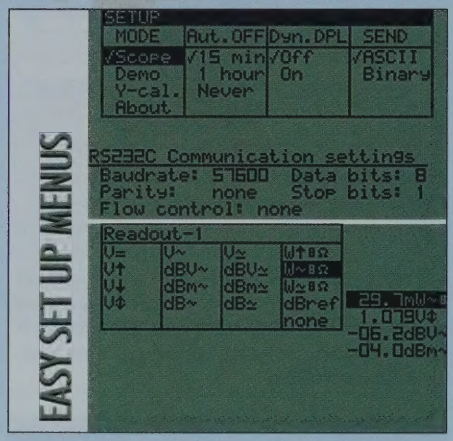
Our goal with the HPS40 was to develop a user-friendly, feature-packed and genuinely "hand-held" oscilloscope. A number of characteristics were on our wish list: low noise, high sensitivity, modest weight, a backlit LCD and a choice between regular batteries or rechargeable ones. Furthermore, the scope also offers a selection of 5 different screen layouts. Both novices and professional users will admire the fast and fully automatic setup function, allowing them to perform measurements without physically touching the unit! Floating measurements are completely safe thanks to the battery-powered operation and the (included) fully insulated measuring probe. These features make the HSP40 indispensable to the professional user, service centers and even to the hobbyist.

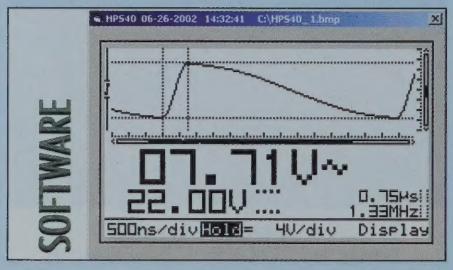






FEATURES :
- 40MHz sampling rate
- 12MHz analog bandwidth
- 0.1mV sensitivity
- 5mV to 20V/div in 12 steps
- 50ns to 1hour/div time base in 34 steps
- full auto set up
- adjustable trigger level
- X and Y position signal shift
- DVM readout
- audio power calculation (rms and peak) in 2, 4, 8, 16 & 32 ohm
- dBm, dBV, DC, rms ...measurements
- signal markers for Volt and Time
- frequency readout (through markers)
- recorder function (roll mode)
- signal storage (2 memories)
- high resolution LCD 192x112 pixels
- LCD backlight
- optical isolated RS232 output for PC
- contains :
  - HPS40 unit
  - user manual
  - flexible carry protection holster
  - insulated safety probe
  - RS232 connection lead (to DB9)
  - handy rigid carry case

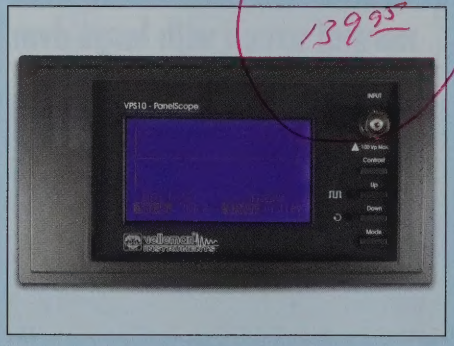




SPECIFICATIONS :
- power supply :
  - 5 x AA battery or Nicd / NiMH
  - includes battery charging circuit
  - adaptor : 9V/ 500mA

PANEL SCOPE

PANEL SCOPE 10MS/S ▸▸ VPS10



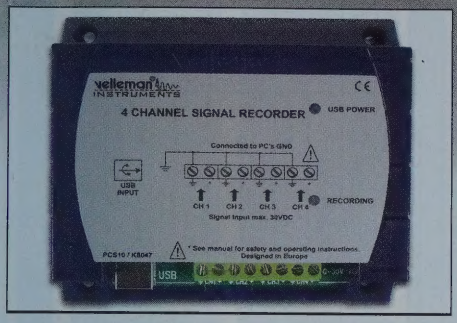
Panel mount oscilloscope for monitoring, system analysis, educational purposes, system demonstrations, sensor testing... Or just connect it to your car's audio system and use it as an eye-catcher! Never before has an oscilloscope had so many potential applications. A must have!

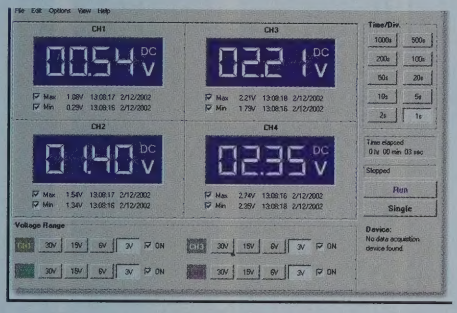
FEATURES :
- panel mount
- high-contrast backlight LCD
- full auto set up
- recorder roll mode
- user-friendly set-up menu
- measurements : rms, dB(rel), dBV, dBm
- Direct Audio power measurements
- x1 and x10 probe calculation
- 6 display modes

SPECIFICATIONS :
- input impedance : 1Mohm / 30pF
- connection of internal or external signal
- bandwidth : 2MHz
- sampling : 10MS/s
- 128 x 64 pixels LCD white backlight
- vertical resolution : 8 bit
- max. sensitivity : 0.1mV
- DVM readout
- AC or DC input coupling
- power supply : 9-13VDC or 6VAC / 300mA
- dimensions : 6.5" x 3.5", depth 1.4"

DATALOGGERS

4-CHANNEL RECORDER / LOGGER ▸▸ PCS10





FEATURES :

- record DC signals or slow-moving signals over very long periods
- the measurements are automatically stored on your hard disk for further processing
- thanks to the USB connection no power supply is necessary and installation is easy and straightforward
- signals are instantly displayed on the PC screen using an analogue or DVM display
- USB cable included
- PC-LAB2000 Software included
- also available in kit version : K8047 (see p.16)

SPECIFICATIONS :

- hardware :
  - USB connected and powered
  - four DC-coupled input channels
  - input resistance : 1Mohm
  - maximum samples per second : 100
  - four input ranges : 3V / 6V / 15V and 30V
  - sensitivity : 10mV
  - accuracy : ~3% of full scale
  - maximum input : 30Vdc
  - power and recording/diagnostic LED
- software :
  - analogue trace or DVM readout
  - 4 channels record simultaneously
  - minimum / maximum sample hold function for DVM
  - from 1 sec to 1000 sec per division
  - storage and recall of screens (full colour) or data
  - automatic recording option for long recordings
  - on screen markers for time and voltage
  - DLL included for your own developments
- system requirements :
  - PC, running Win98SE or higher (does not work on WinNT or Win95)
  - free USB port
  - mouse
  - CD-ROM player

STARTER KITS

SOLDERING STARTER KIT ▸▸ K/START2

Ideal for beginners.

FEATURES :

- contains :
  - 3 1/2 digital multimeter : DVM810
  - miniature long nose pliers : VT056
  - electronic dice : MK109 (see p.7)
  - pocket vu-meter : MK115 (see p.8)
  - solder sucker pump : VTD4
  - screwdriver set : VTSET6

Select your most suitable VELLEMAN scope

velleman® INSTRUMENTS

OSCILLOSCOPES RANGE	HPS10 / HPS10SE	VPS10	HPS40	APS230	PCS10	PCS100(A)	PCS500(A)
Number of channels	1	1	1	2	4	1	2
Maximum sample rate	10MS/s	10MS/s	40MS/s	2 x 240MS/s	100S/s	32MS/s	2 x 1GS/s
Maximum bandwidth	up to 2MHz	up to 2MHz	up to 12MHz	30MHz (ex. 1&2mV)	Slow signal	12MHz all ranges	50MHz all ranges
Real time sample rate	1MS/s	1MS/s	5MS/s	2 x 60MS/s		32MS/s	2 x 50MS/s
Number of screen layouts	5	6	5	5	2	1	1
Screen size (pixels)	128x64	128x64	192x112	192x128	apr. 550x295	apr. 520x295	apr. 520x295
LCD backlight	White/Blue for SE	White/Blue	☑	White			
Memory length (bytes)	256	256	256	2 x 256		4096	2 x 4096
Resolution	8 bit	8 bit	8 bit	8 bit	8 bit	8 bit	8 bit
Sensitivity Vpp	0.1mV	0.1mV	0.1mV	0,03mV	10mV	0.3mV	0.1mV
Volt /div range	5mV to 20V / 12st	5mV to 20V / 12st	5mV to 20V / 12st	1mV to 20V / 14 st	3V to 30V range	10mV to 3V / 6 st	5mV to 15V / 8 st
Maximum volt. with X 10 probe	600VDC incl ACp	600VDC incl ACp	600VDC incl ACp	600VDC incl Acp		120VDC incl ACp	600VDC incl Acp
Fastest time / div	0.2µs	0.2µs	0.05µs	0.025µs	1s	0.1µs	0.02µs
Slowest time / div	3600s	3600s	3600s	3600s	1000s	2000s	2000s
Data or screen to computer			☑ RS232	☑ RS232	☑	☑	☑
PC software			Download only	Download only	PC-Lab2000 CD	PC-Lab2000 CD	PC-Lab2000 CD
Operation through computer				Yes opto- RS232	USB	Opto isolated LPT	Opto isolated LPT
Screen memories	2		2	1	PC harddisk	PC harddisk	PC harddisk
Stand alone operation	☑	☑	☑	☑			
Oscilloscope probe included	1	☐	1	2		1	2
Recorder mode	☑	☑	☑	☑	☑	☑	☑
Spectrum analyser mode						☑	☑
Bode plot option (+ PCG10)						☑	☑
X position and Y position shift	☑	☑	☑	☑		☑	☑
X 10 probe calculation option	☑	☑	☑	☑			

OSCILLOSCOPES RANGE	HPS10 / HPS10SE	VPS10	HPS40	APS230	PCS10	PCS100(A)	PCS500(A)
Adjustable trigger level			☑	☑		☑	☑
External trigger input				Via other channel			☑
Pre trigger function				☑			☑
Zoom function for time/div					☑	☑	☑
Auto set-up FULL	☑	☑	☑	☑			
Auto set-up SEMI						☑	☑
Dynamic screen for markers	☑		☑				
Signal markers (dt / dV / 1/dt)	☑		☑	☑	☑	☑	☑
Audio power calculation	☑	☑	☑	☑			
Gain measurement				☑			
dBm measurement	☑	☑	☑	☑		☑	☑
dBV measurement	☑	☑	☑	☑			☑
AC only true rms display	☑	☑	☑	☑		☑	☑
AC + DC true rms display	☑	☑	☑	☑			☑
DC measurement	☑	☑	☑	☑	☑		☑
AC+DC max / min / pk to pk	☑	☑	☑	☑			☑
Duty Cycle / pos neg width							☑
Rise / Fall time							☑
Period / Frequency / Phase	☑☑		☑☑	☑☑			☑☑☑
Auto power off option	☑		☑	☑			
Battery / rechargeable battery	☑		☑	Included			
Low battery indication	☑		☑	☑			
Battery charge circuit	☑		☑	Fast			
Holster included (BAGHPS)	☐		☑				
Soft bag (GIB)				☐		☐	☐
Hard case (CASEHPS)	SE version		☑				
Upgradeable firm- or software				☑	☑	☑	☑
Panel mount type		☑					

☑ = Yes ☐ = Option

* Due to regular software updates, specifications or features can improve

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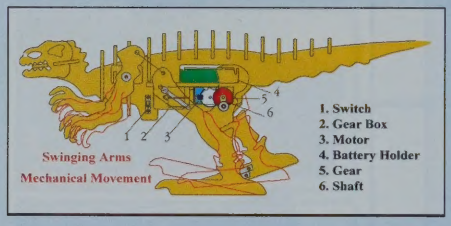
ROBOKITS

MECHANICAL MOTORIZED WOODEN KITS

A series of Mechanical Motorized Kits for future engineers. Familiarize yourself with the operation of transmissions steered through gears or pulleys. Easy to build, no glue or soldering required.

FEATURES :
- supplied with : pre-punched boards, gearbox, gears, shafts, switch, motor, battery holder and all necessary parts
- instructions are easy to follow
- powered by : 2 x AA batteries (not included)
- required tools : knife, screwdriver, long-nose pliers

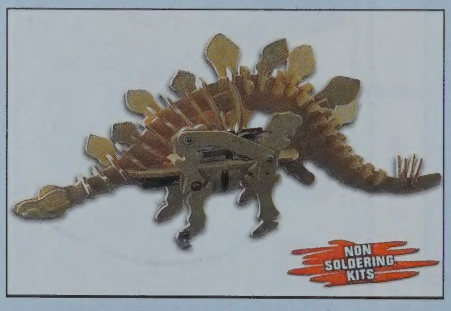
TYRANNOMECH ▸▸ KNS1

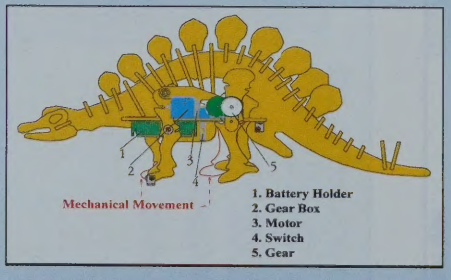


FEATURES :
- transmission : gear drive operation

SPECIFICATIONS :
- dimensions : 410 x 175 x 75mm

STEGOMECH ▸▸ KNS2

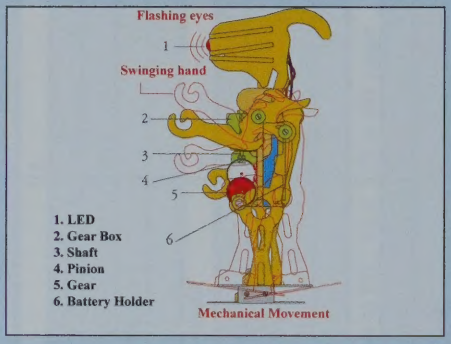




FEATURES :
- transmission : gear drive operation

SPECIFICATIONS :
- dimensions : 370 x 100 x 180mm

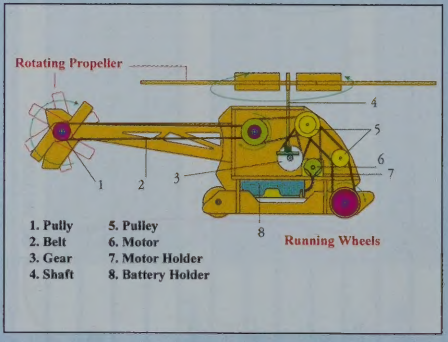
ROBOMECH ▸▸ KNS3



FEATURES :
- transmission : gear drive operation

SPECIFICATIONS :
- dimensions : 90 x 210 x 80mm

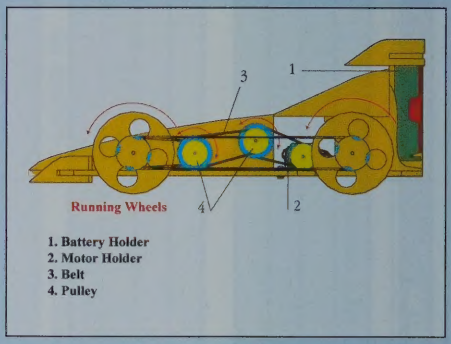
COPTERMECH ▸▸ KNS4



FEATURES :
- transmission : pulley drive operation

SPECIFICATIONS :
- dimensions : 357 x 264 x 125mm

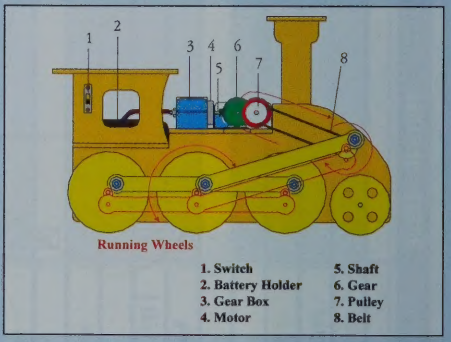
AUTOMECH ▸▸ KNS5



FEATURES :
- transmission : pulley drive operation

SPECIFICATIONS :
- dimensions : 240 x 85 x 95mm

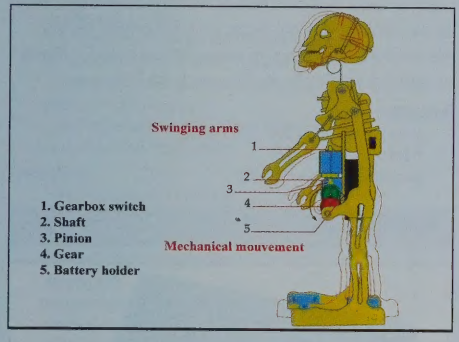
TRAINMECH ▸▸ KNS6



FEATURES :
- transmission : gear drive & pulley drive operation

SPECIFICATIONS :
- dimensions : 218 x 95 x 150mm

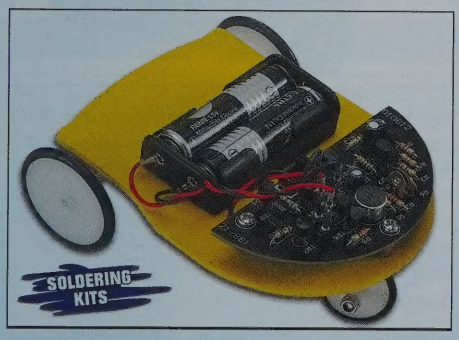
SKELETON ▸▸ KNS8



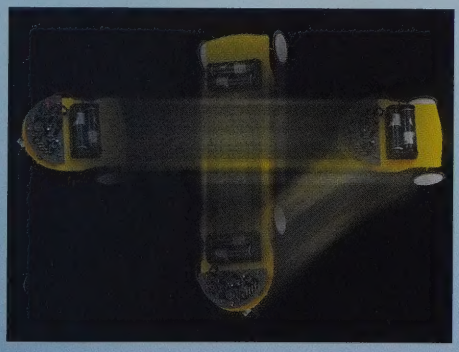
FEATURES :
- transmission : gear drive operation

SPECIFICATIONS :
- dimensions : 100 x 100 x 290mm

ROBOT CAR ▸▸ KSR1



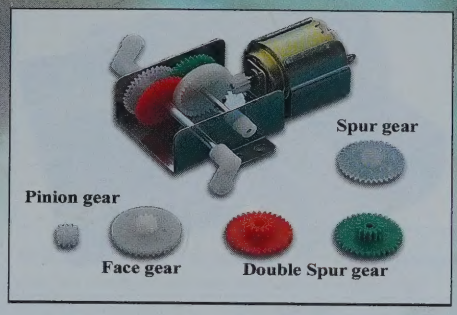
A sensor-activated robot car. The car changes directions when the sensor detects noise or when the car hits an object.

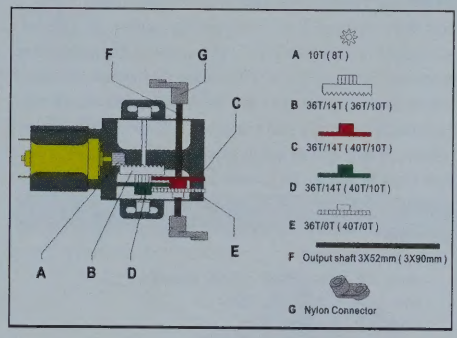


SPECIFICATIONS :
- uses a microphone as sound sensor
- dimensions : 110 x 90 x 60mm
- power supply : 2 1.5V AA batteries (not included)

OPTIONAL PARTS

GEARBOX 2 IN 1 ▸▸ KNS7





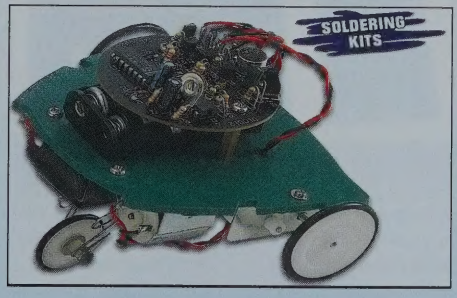
FEATURES :
- use the contents of this set to change the speed of your existing sets

SPECIFICATIONS :
- contains : motor, 2 set gears, metal shafts, gearbox and other accessories

ELECTRONIC ROBOT KITS

A series of Robot Kits for the future engineer. Build these kits and find out how much fun electronics & mechanics can be !

ROBOT FROG ▸▸ KSR2



The robot frog moves forward when it detects sound and repeats the following movements sequentially : start (move forward) -> stop -> left turn -> stop -> right turn -> stop. Two sets of gear motors (unassembled).

SPECIFICATIONS :
- dimensions : 90 x 125 x 100mm
- power supply :
  - mechanical : 2 1.5V AA batteries (not included)
  - electronic : 9V-battery (not included)

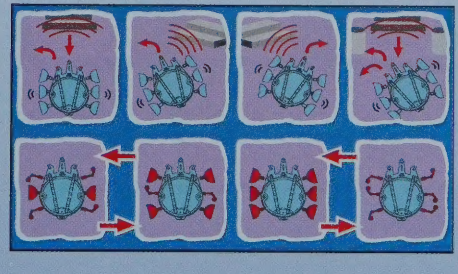
ROBOT HEXAPOD ▸▸ KSR3

This hexapod monster is a robot that uses infrared emitting diodes for eyes and propels itself with its 6 legs. It backs up to the left when it detects obstacles and subsequently keeps moving forward as long as the sensor does not detect any new obstacles. Two sets of gear motors (unassembled).

SPECIFICATIONS :
- dimensions : 135 x 120 x 95mm
- power supply :
  - mechanical : 2 1.5V AA batteries (not included)
  - electronic : 9V-battery (not included)

"ESCAPE" ROBOT KIT ▸▸ KSR4

The Escape Robot Kit works just like an A.I. robot. It never fails to find its way out of a maze. The Escape Robot uses 3 IR emitting diodes and 1 IR receiving module to send and receive signals and detect obstacles. The Escape Robot's built-in microprocessor enables it to "think" on its own: it gathers and processes information on its environment so it can avoid any obstacle. The Escape Robot moves about on 6 legs. This kit comes complete with 2 sets of differently designed legs that move in their own distinct way. Fun and excitement are guaranteed!



SPECIFICATIONS :
- dimensions : 140 x 150 x 100mm

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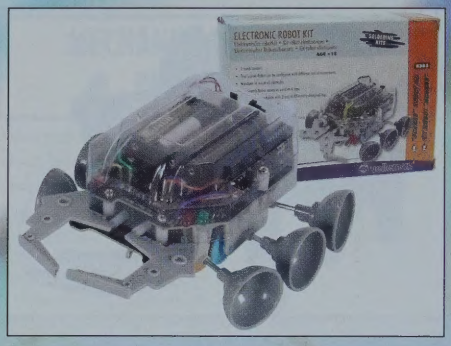
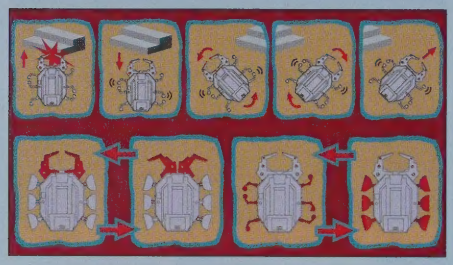
"SCARAB" ROBOT KIT ▸▸ KSR5

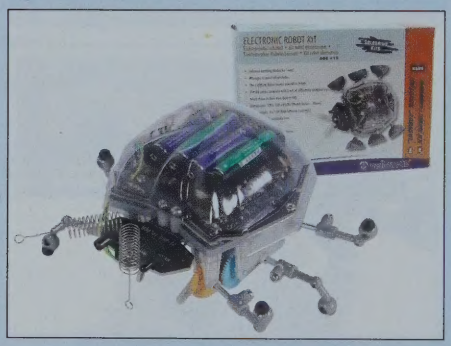


Scarab is a robot that uses 2 touch sensors to detect obstacles. When its antennas (touch sensor) detect an obstacle, Scarab will first step back and then automatically execute a two-step manoeuvre to avoid the obstacle. The manoeuvre is a combination of "left turn", "right turn", "reverse" or "stop". The Scarab Robot can be configured with different sets of movements. The Kit comes complete with 2 sets of differently designed legs, which move in their own distinct way. Let the fun begin!

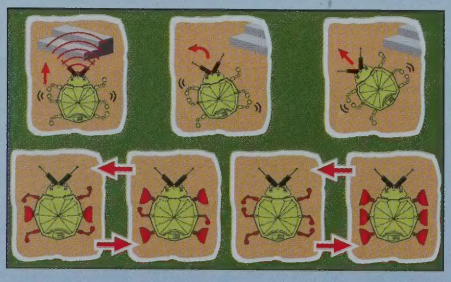


Specifications :
- dimensions : 175 x 145 x 85mm

"LADYBUG" ROBOT KIT ▸▸ KSR6



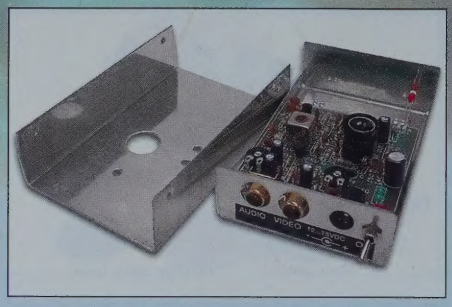
The Ladybug Robot walks on 6 legs and uses infrared emitting diodes for "eyes" in order to avoid obstacles. Ladybug walks straight ahead but automatically makes a left turn the moment an obstacle is detected. The Kit comes complete with 2 sets of differently designed legs, which move in their own distinct way. Let the fun begin!



Specifications :
- dimensions : 120 x 150 x 85mm (length feelers : 40mm)

VIDEO APPLICATIONS

AUDIO/VIDEO TV MODULATOR ▸▸ K4601

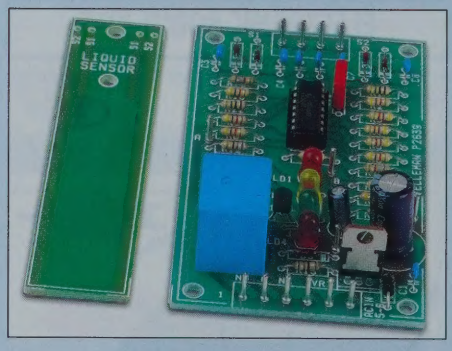


If it is desired to connect a video signal originating from a camera or other video source to a normal TV set, you will need this modulator. The audio and video signal is converted into a UHF TV signal so that the signal can be received through the TV antenna input. In certain countries (find out from your national telecommunications authority) it is permitted to use this modulator as a mini-transmitter by connecting a small antenna to it. With this facility it is possible to receive the signal from the video recorder or camera elsewhere within your home (range 98' approx.). The kit comes complete with housing and antenna connector.

Specifications :
- input : audio and video
- output : UHF channel 21 (450 - 500MHz adjustable)
- power supply : 12 to 15V DC / 100mA
- dimensions : 2.8" x 4.1" x 1.2"

HOME APPLICATIONS

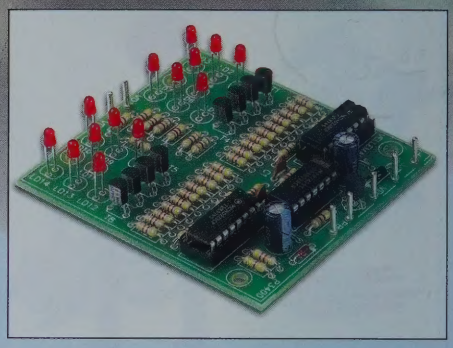
LIQUID LEVEL CONTROLLER ▸▸ K2639



Forgotten to turn off the tap, leaking washing machines, water level dropping in your aquarium, rain tank or water tank suddenly dry or over flowing, water in your cellar, etc. Such situations are often the cause of trouble and financial burden. Prevention is better than cure. So use this fluid detector. This multifunctional device is easy to use in a variety of applications : 1) LED control of set fluid level : LOW, MIDDLE, HIGH ; 2) Controller : the relay automatically switches a pump and/or valve to keep the fluid level between the LOW and HIGH marks ; 3) Alarm : if the sensor detects a level which is too high or too low (selectable), the relay will operate a bell or other alarm device.

Specifications :
- power supply : 12-14V AC or 16-18V DC / 100mA
- relay output : 240V / 3A max.
- dimensions :
  - controller PCB : 4.1" x 2.4"
  - sensor PCB : 4.1" x 1.0"

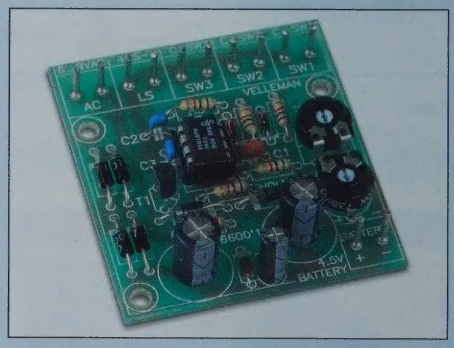
DUAL ELECTRONIC DICE ▸▸ K3400



Board games provide an excellent source of pleasant and healthy entertainment. However, the dice can be a constant source of distraction : they fall off the table, allow cheating, one or more players don't see the results properly and so on. There can be no doubt at all about the result displayed on this electronic dice module, and cheating is out of the question. Two fully independent dice. At your choice you can play with one or two dice. Displays are switched off automatically after 30 seconds to save battery power.

Specifications :
- power supply : 8 to 12V DC or 6V AC / 60mA
- PCB dimensions : 3.0" x 2.8"
- recommended adapter : PS905USA

MULTITONE CHIME ▸▸ K6600

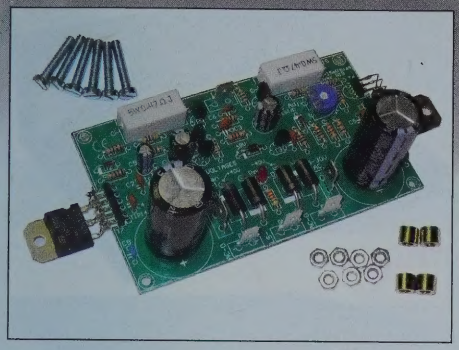


Electronic tones can be generated simply and cheaply using the device. This kit is primarily intended for use as a replacement for the traditional mechanical doorbell. Of course, it can also be used for many other types of applications. The number of tones may be selected up to a maximum of three, each of which is output one after the other. This can be used to help locate the place being called. Volume and tone can also be set. The existing bell transformer can be used as a power supply.

Specifications :
- adjustable tone and volume control
- 1, 2 or 3 tones selectable
- loudspeaker output : 0.3W / 8ohm
- power supply : 6 to 9V AC / 0.2A or 4.5V battery (3 x 1.5V AA batteries (not incl.)
- idle current : less than 10µA
- dimensions : 2.1" x 2.3"
- recommended housing : G416 or G410

AUDIO/HIFI APPLICATIONS

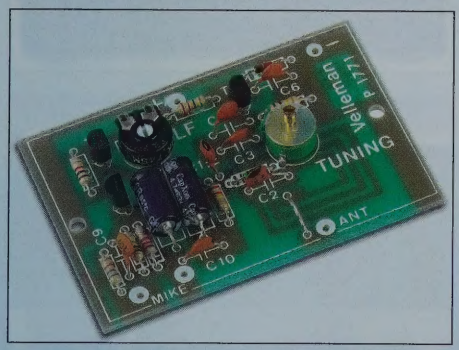
DISCRETE POWER AMPLIFIER 200W ▸▸ K8060



FEATURES :
- excellent value for money
- fully discrete design using Epitaxial Darlington transistors
- DC supply circuit on board with LED indication
- ideal for active speaker system or subwoofer, guitar amp, home theatre systems, instrument amp, etc.
- comes complete with transistor isolators, spacers and bolts
- overload and short-circuit protection

SPECIFICATIONS :
- 200W music power @ 4 ohm load
- 100Wrms power @ 4 ohm load
- 70Wrms power @ 8 ohm load
- distortion : 0.02% @ 1KHz/10W
- damping factor : >800
- frequency response : 3Hz to 200KHz (-3dB)
- sensitivity : 0.6Vrms
- signal to noise ratio : 115dB
- power supply : 2 x 25-30Vac / 120VA
- PCB dimensions : 107x62mm (approx.)
- recommended heatsink : HSVM100 (pre-drilled) or S44/75 (not drilled)
- recommended power transformer :
  - 230VAC input, 2 x 30VAC output : 12030
  - 115 / 230VAC input, 2 x 25VAC output : TR8040 (output power reduced by ~15%)

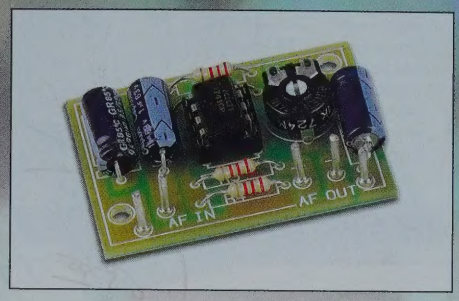
FM OSCILLATOR ▸▸ K1771



Mini FM modulator (100-108MHz). Integrated pre-amplifier, to which any type of microphone may be connected. Family broadcasts, baby phone, security. May be received by any portable FM radio or tuner.

SPECIFICATIONS :
- power supply : 9 - 12V DC
- input sensitivity preamplifier : 5mV
- PCB dimensions : 1.8" x 2.8"
- recommended housing : G410

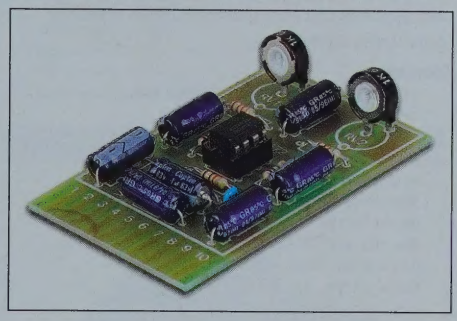
UNIVERSAL MONO PRE-AMPLIFIER ▸▸ K1803



This kit has been developed as pre-module for a number of audio applications where there is insufficient input signal. Applications as a microphone pre-amplifier or for level correction.

SPECIFICATIONS :
- power supply : 10-30V DC / 10mA
- output impedance : 1Kohm
- adjustable output level : max. 40dB
- frequency range : 20Hz to 20kHz ~ 3dB
- max. input signal : 40mV
- PCB dimensions : 1.2" x 1.7"
- options for power supply : K1823 (see p.19)

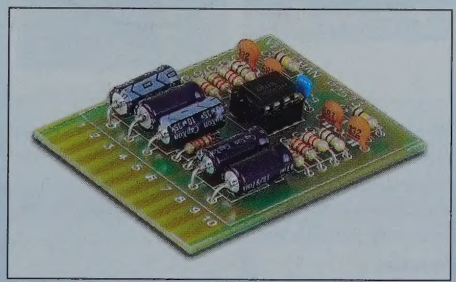
UNIVERSAL STEREO PRE-AMPLIFIER ▸▸ K2572



Universal low-noise stereo pre-amplifier.

SPECIFICATIONS :
- frequency range : 40Hz - 30kHz (-3dB)
- max. input voltage : 50mVrms
- adjustable gain : 40dB max.
- output impedance : 1Kohm
- power supply : 10-30V DC / 5mA
- PCB dimensions : 1.7" x 2.6"
- recommended transformer : K1823 (see p.19)

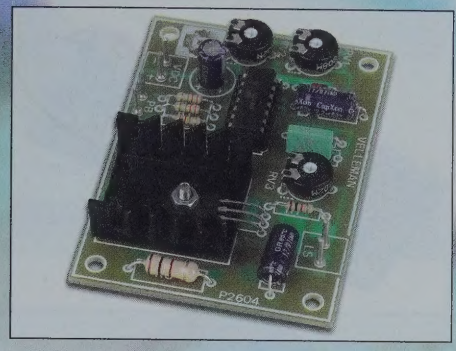
STEREO RIAA PRE-AMPLIFIER ▸▸ K2573



RIAA stereo pre-amplifier for md pick-ups. Low noise.

SPECIFICATIONS :
- supply voltage : 10 -30V DC / 5mA regulated
- gain (1kHz) : 35dB
- input signal : 5 - 10mV
- input impedance : 47Kohm
- PCB dimensions : 1.7" x 2.6"
- recommended transformer : K1823 (see p.19)

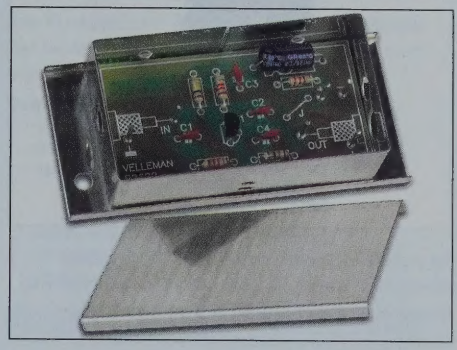
POLICE SIREN ▸▸ K2604



Enter the world of amazing electronic sounds and noises. Create or imitate sirens of all kinds by adjusting 3 trimmers. Powerful sound with a 2W amplifier on the PCB.

SPECIFICATIONS :
- power supply : 8 - 14V DC / 1A
- dimensions : 3.1" x 2.2"

AM/FM ANTENNA AMPLIFIER ▸▸ K2622



This amplifier provides 22dB gain wherever you need it. DC power supply directly or via the coax cable. Metal housing included.

SPECIFICATIONS :
- gain : 22dB
- power supply : 12V to 15V / 3mA
- input- and output impedance : 50 - 75ohm
- frequency range : 10MHz to 150MHz
- dimensions : 3.4" x 1.4" x 0.9"

3W MONO AMPLIFIER ▸▸ K8066

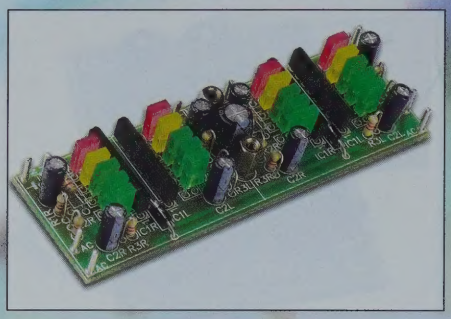
Small but powerful amplifier suits a wide range of applications such as : microphone amp, for doorbells, melody generators, intercom, sound effects, earphones, radio receivers, PC sound card, musical instrument, ...

FEATURES :
- compact size
- low partcount
- no additional heatsink required
- single supply
- wide supply range
- excellent protection

SPECIFICATIONS :
- output power : 3Wrms (4-8 ohm, 15VDC, 10% THD)
- frequency range : 50Hz - 20kHz (1W/8ohm, -3dB)
- gain : 32dB (40x)
- thermal protection
- short circuit protection
- power supply : 6 ~ 15VDC
- current consumption : 500mA max.
- dimensions : 1.6" x 1.9"

A

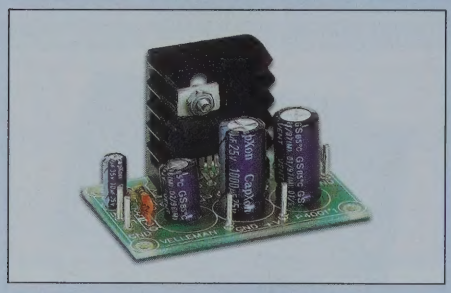
DUAL STEREO VU METER ▸▸ K2668



This module contains 2 stereo VU meters with 2 x 5 LED indicators.

SPECIFICATIONS :
- indication : -13, -8, -3, 0, +3dB
- sensitivity : 0dB = 0.775Vrms (easily adjustable)
- supply voltage : 14 - 18V DC / 62mA
- PCB dimensions : 1.1" x 3.9"

7W MONO AUDIO AMPLIFIER ▸▸ K4001

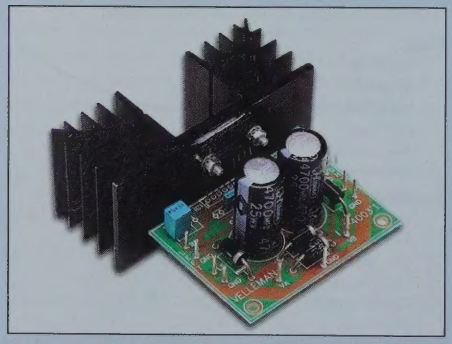


This small amplifier is constructed around the TDA2003 IC, capable of delivering 4Wrms at 4ohms. The IC is completely thermally and short-circuit protected. A conventional direct current can be connected as supply.

FEATURES :
- exists also in mounted version : M4001 ()

SPECIFICATIONS :
- music power output : 7W / 4ohm
- RMS output : 3.5W / 4ohm or 2W / 8ohm
- total harmonic distortion : 0.05% (1W / 1kHz)
- frequency response : 20Hz to 20kHz (-3dB)
- signal/noise ratio : 86dB (A weighted)
- input sensitivity : 40mV / 150Kohm
- overload and short-circuit protected
- supply voltage : 15V DC (8 to 18V DC possible) / 0.5A
- dimensions : 2.2" x 1.4"

2 X 30W AUDIO POWER AMPLIFIER ▸▸ K4003

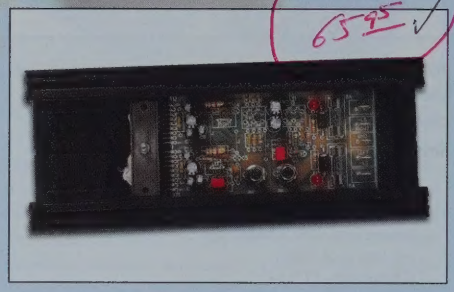


This small amplifier is constructed with the TDA1521 IC, with a maximum supply capability of 2 x 15Wrms (4ohm) of 2 x 10Wrms (8ohm). The IC is thermally and short-circuit protected. Additional rectifier and smoothing filter are unnecessary, as alternating current can be directly connected to the unit.

FEATURES :
- exists also in mounted version : M4003

SPECIFICATIONS :
- music power output : 2 x 30W / 4ohm
- RMS output : 2 x 15Wrms / 4ohm or 2 x 10Wrms / 8ohm
- total harmonic distortion : 0.07% (1W / 1kHz)
- channel separation : 70dB
- frequency response : 7Hz to 60kHz (-3dB)
- signal-to-noise ratio : 98dB (A weighted)
- input sensitivity : 300mV / 150Kohm
- transient suppression on/off switch
- overload and short-circuit protection : max. 1h
- supply voltage : 2 x 12V AC / 2A (50W transfo recommended)
- dimensions : 2.8" x 2.0"

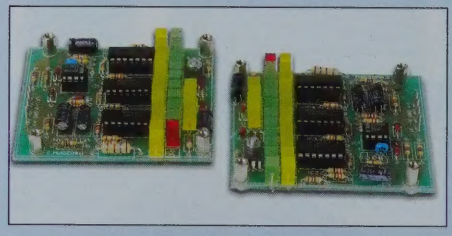
200W MONO / STEREO AMPLIFIER ▸▸ K4004B



Universal, robust and compact are the words to describe this amplifier. Universal : A stereo or a mono amplifier. Three input sensitivities are selectable. Robust : Overload and short-circuit protection, protection against incorrect power supply polarity and thermally protected too (option for K4005B). Speaker transient suppression.

SPECIFICATIONS :
- rms output power : 2 x 50W / 4ohm ; 2 x 40W / 8ohm
- rms mono-bridged power : 100W / 8ohm
- total music output : 200W
- harmonic distortion : 0.01% at 1kHz
- signal-to-noise ratio : 102dB (A weighted)
- stereo channel separation : 85dB
- damping factor (at 100Hz) : > 1000
- input impedance : 22Kohm
- input sensitivity : 300mV, 550mV or 1V switchable
- thermal protection : max. 1h
- short-circuit and overload protection : max. 10 sec.
- power supply : + 28V DC and - 28V DC max.
- consumption (2 x 4ohm or mono-bridge 8ohm) : 4A max.
- consumption (2 x 8ohm) : 2.5A max.
- dimensions : 8.3" x 3.4" x 2.5"

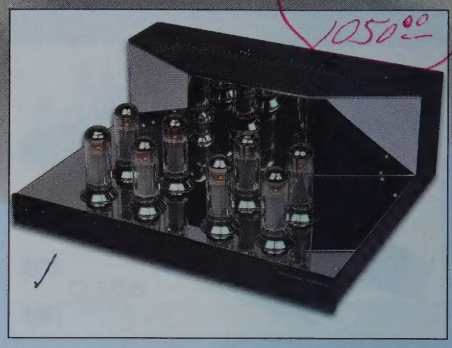
POWER METER FOR K4020 ▸▸ K4021



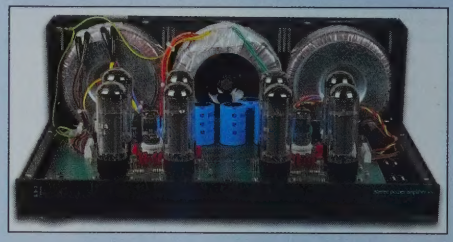
This is built into the K4020U () MOSFET amplifier in order to display amplifier power output. The meters are mounted behind the correct scale, which is also illuminated, according to the speakers connected to the amplifier (4 or 8 ohms). When the amplifier is switched into a bridge configuration, then both meters may be connected in series.

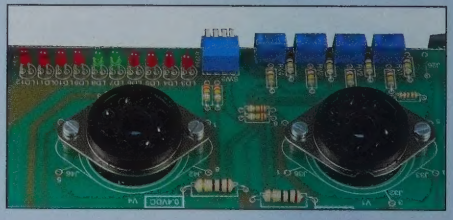
SPECIFICATIONS :
- stereo scale (vertical) : 0.001 to 100W / 8ohm ; 0.002 to 200W / 4ohm, divided over 12 LEDs
- scale distribution with mono bridge configuration (horizontal) : 0.001 to 400W / 8ohm divided over 24 LEDs
- 2 x 16 LEDs for scale illumination
- supply voltage : + and - 40V from K4020U
- dimensions : 3.1" x 2.8"

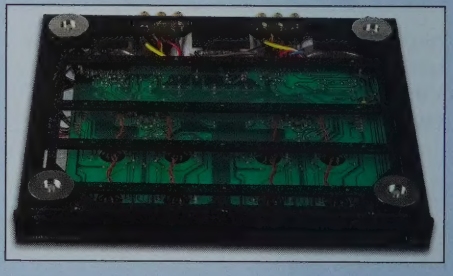
STEREO TUBE AMPLIFIER / CHROME VERSION ▸▸ K4040



For most of us a high power tube amplifier is unaffordable. This kit changes that, so that now everybody can enjoy that sublime "tube sound". The sound of tubes has never been surpassed, nor by transistors, nor by FETs. In the course of developing this amplifier, special attention was given to the housing so that the expensive tubes are on display in a way that is very pleasing to the eye. The weakest point of an tube amplifier are the output transformers ; that's the reason why we use ultra-linear and over-rated output transformers (toroidal) to guarantee a rich bass response. To extend the life of the precious valves, the amplifier is provided with an switch on delay, so that the high voltage is switched on when the tubes are warmed up.



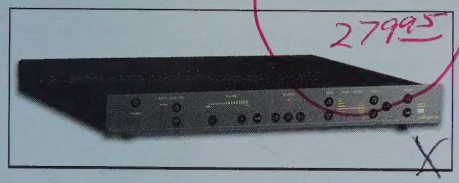




FEATURES :
- pure valve sound with high quality EL34 tubes
- high quality black and chrome housing
- chrome valve socket covers
- easy bias adjustment with LED indication
- removable bottom for easy access and service
- high quality capacitors and components
- gold plated input and speaker terminals
- standby function
- "Soft start" circuit for power transformer

SPECIFICATIONS :
- output power : 2 x 90Wrms music power for loads of 4 or 8 ohm
- power bandwidth : 15Hz - 40kHz (-3dB ref. 50W)
- frequency range : 8Hz - 80kHz (-3dB ref. 1W)
- harmonic distortion : 0.08% (1kHz / 1W) / 0.7% (1kHz / 90W)
- signal-to-noise ratio : > 105dB (A-weighted ref. 90W)
- channel separation : >75dB (ref. 90W)
- input impedance : 34Kohm
- input sensitivity : 1Vrms at 95W
- damping factor : > 10 (100Hz)
- weight : 37.5lb
- dimensions : 16.7" x 5.1" x 13.8"

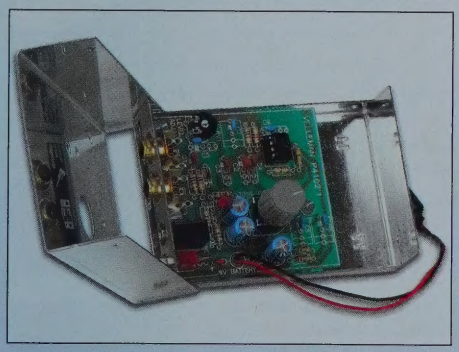
DIGITALLY CONTROLLED PREAMPLIFIER ▸▸ K4100



A pre-amplifier is an indispensable device for controlling a power amplifier, such as e.g. our K4040 (see p.34) valve amplifier or K4020 / K4010 MOSFET amplifiers. When developing this pre-amplifier we opted for DIGITAL control of all functions, so that it contains no potentiometers at all ! All functions, such as volume, tone control, balance and input selection can be operated using push buttons and a LED display gives a clear indication of all settings. All functions may be operated with a remote control unit (K4101 available as option).

SPECIFICATIONS :
- input sensitivity :
  - PHONO : 5.5mV / 50Kohm
  - CD : 500mV / 32Kohm
  - TUNER, TAPE1 & 2 : 360mV / 22Kohm
- output level :
  - LINE : 1V
- signal-to-noise ratio (A weighted) :
  - PHONO : 75dB
  - TAPE, CD, TUNER : 100dB
- total harmonic distortion : 0.01%
- frequency response : 8Hz - 150kHz (-3dB)
- channel separation : 90dB
- cross talk : -99dB
- headphones output : 280mW / 32ohm
- mains output : 5A
- consumption : 6W max.
- dimensions : 16.7" x 2.0" x 13.8"
- weight : 11lb

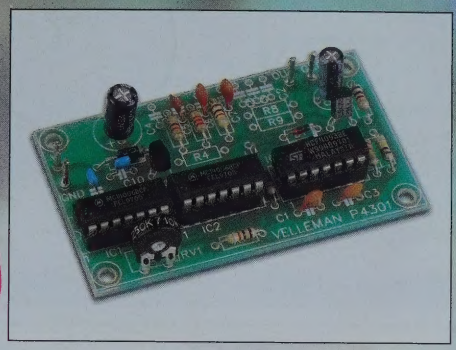
GUITAR HEADPHONE AND PREAMPLIFIER ▸▸ K4102



An electric guitar cannot be connected to just any amplifier or audio installation. This pre-amplifier has been designed for this purpose and provides you with a headphone output, allowing you to practice without disturbing others. Moreover, it is fitted with a special device for tone adjustment, allowing anyone to create their personal sound.

SPECIFICATIONS :
- sound adjustment
- adjustable input sensitivity
- low noise
- headphones output : max. 2 x 50mW / 32ohm
- housing included
- power supply : 9V battery (not incl.)
- dimensions : 2.8" x 1.2" x 4.1"

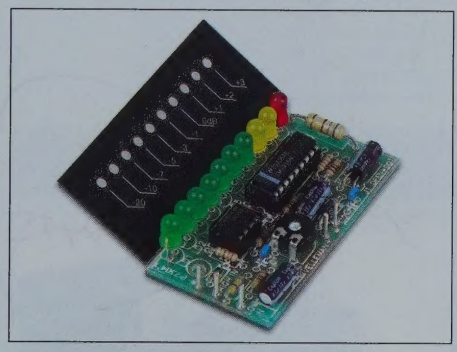
PINK NOISE GENERATOR ▸▸ K4301



To analyze the acoustic properties of a room (usually a living room), a good pink noise generator together with a spectrum analyzer is indispensable. Moreover, a microphone with as linear a frequency characteristic as possible (from 20Hz to 20kHz) is needed. If you have an equalizer available, then the response can not only be checked but also corrected. Easily adapted to produce "white noise"

SPECIFICATIONS :
- pseudo random digital noise
- regulator sliding length : 33 bit
- clock frequency : adjustable between 30 and 100kHz
- pink noise filter : 3dB / octave (20Hz to 20kHz)
- output voltage : 150mVrms
- output impedance : 1Kohm
- power supply : 9 - 12V AC or 12 - 15V DC / 5mA
- PCB dimensions : 2.8" x 1.7"
- recommended housing : G410

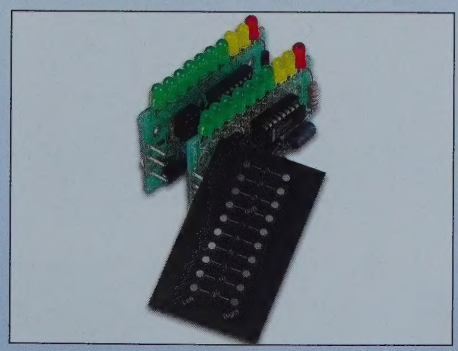
MONO VU-METER 10 LEDS ▸▸ K4304



VU meter with a scale consisting of 10 LEDs and an adjustable input. Dot or bar indicator. Supplied with 1 front panel suitable for horizontal or vertical mounting.

SPECIFICATIONS :
- range : -20dB to +3dB
- power supply : 10 - 15V DC / 250mA
- input sensitivity :
  - low input : 150mV to 6Vrms (47K)
  - high input : 1.5V to 60Vrms (470K)
- dimensions : 1.5" x 2.7"

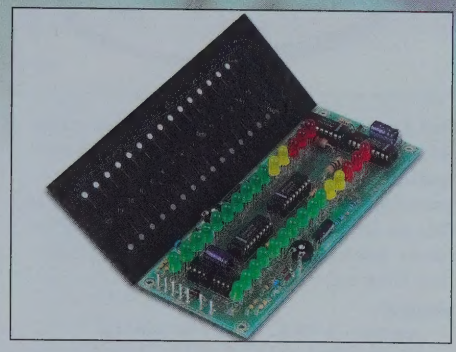
STEREO VU-METER 2 X 10 LEDS ▸▸ K4305



Stereo VU meter with 2 x 10 LEDs (dot or bar indicator) and an adjustable input. Included in package : 1 front panel suitable for horizontal or vertical mounting.

SPECIFICATIONS :
- range : -20dB to +3dB
- power supply : 10 - 15V DC / 250mA
- input sensitivity :
  - low input : 150mV to 6Vrms (47K)
  - high input : 1.5V to 60Vrms (470K)
- dimensions : 1.5" x 2.7" (x2)

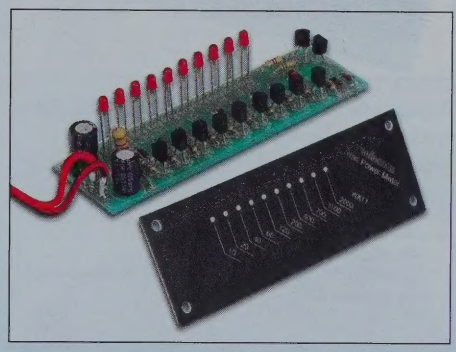
PRECISION STEREO VU-METER 2 X 15 LEDS ▸▸ K4306



Stereo VU meter with 2 x 15 LEDs (dot or bar indicator) and an adjustable input. Included in package : 1 front panel suitable for horizontal or vertical mounting.

SPECIFICATIONS :
- scale from : -23dB to +5dB (linear scale between -4 and +5dB)
- precision : ″ 0.5dB (1kHz)
- input impedance :
  - low input : 150mV - 5Vrms
  - high input : 1.5V - 50Vrms
- frequency range : 20Hz - 30kHz (-3dB)
- power supply : 12 - 15V DC / 300mA
- dimensions : 5.9" x 2.2"

AUDIO POWER METER ▸▸ K4307



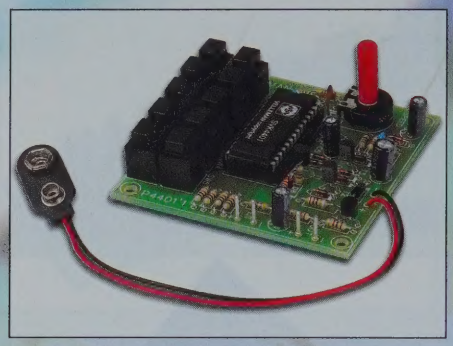
10 LED scale, up to 2000Wrms power measurements. Does not need a special power supply, because it is supplied directly from the speaker output. Ideal for car audio systems and PA systems. Also usable for bridged amplifiers. The unit can be used both horizontal and vertical. The kit comes with a front panel and four attractive front stickers, for the different scales.

FEATURES :
- exists also in mounted version : M4307A () , M4307B , M4307C, M4307D

Specifications :
- four different scales :
  - at 4 ohm load in low power mode : 0.3 to 400Wrms
  - at 4 ohm load in high power mode : 10 to 2000Wrms
  - at 8 ohm load in low power mode : 0.15 to 200Wrms
  - at 8 ohm load in high power mode : 5 to 1000Wrms
- minimum input sensitivity : 1.1Vrms (low power mode)
- maximum input voltage : 130Vpeak (high power mode)
- current consumption : 25mA at full scale
- luminous intensity : 8 to 20mcd / LED
- dimensions : 4.7" x 1.6" x 1.1"

A

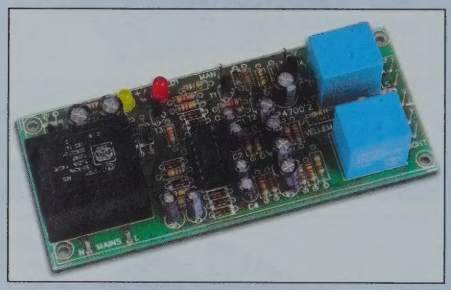
SOUND GENERATOR ▸▸ K4401



The ideal device for DJ's, jingles for radio stations or just to attract attention. With one output for direct connection to a speaker and one line output for connecting to a mixer panel or amplifier. The following effects may be generated directly by means of a push button : Machine gun · European siren · Phasor gun · Racing car with motor howl · Screeching of car tires on a curve · Explosion · Mortar fire followed by explosion · Music : "Wild charge tune" or "Snake charmers tune" · US siren

SPECIFICATIONS :
- supply voltage : 8 - 10V DC / 100mA or 9V battery (not incl.)
- line output : 1Vrms
- speaker output : 1W
- PCB dimensions : 3.0" x 3.0"
- recommended adapter : PS905USA

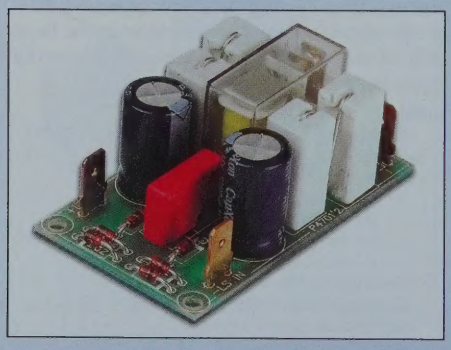
2-CHANNEL LOUDSPEAKER PROTECTION ▸▸ K4700



This stereo speaker protection prevents switch-on clicks and DC components on the output of the amplifier connected.

SPECIFICATIONS :
- switch-delay : ″ 6 seconds
- DC protection : +1V/-1V
- max. input voltage : 200Vpp + DC
- max. switching current : 10A
- LED indication for : WAIT (switch-on delay) and ERROR (DC on speaker output)
- supply voltage : 220VAC
- PCB dimensions : 2.2" x 4.9"

LOUDSPEAKER DC-PROTECTION ▸▸ K4701

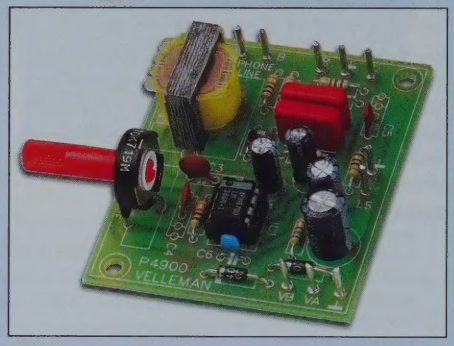


Burn out of a power amplifier's output stage nearly always results in a dangerous direct current to the loudspeaker's terminals. In turn, this results in loudspeaker burn out. This protection unit, requiring no supplementary supply, is simply mounted between the amplifier and the speaker in the speaker cabinet and disconnects the speaker as soon as a direct current appears. Also ideally suited for use in the car.

FEATURES :
- exists also in mounted version :
  - M4701A: Loudspeaker DC protection up to 30W max.
  - M4701B: Loudspeaker DC protection up to 300W max.

SPECIFICATIONS :
- maximum input voltage : 90V DC
- max. contact current : 10A
- minimum safety voltage : 10V DC
- no external supply needed
- dimensions : 1.6" x 2.6"
- recommended housing : G410

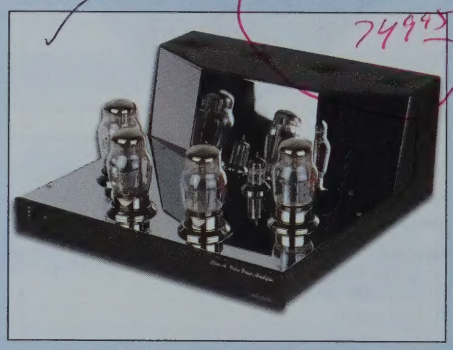
TELEPHONE AMPLIFIER ▸▸ K4900



This telephone amplifier may be used as a free-standing amplifier with speaker, e.g. to listen to a telephone conversation, or the output may be connected to an amplifier or mixing panel (e.g. radio stations).

SPECIFICATIONS :
- input : isolation transformer interface
- speaker output : 0.5W / 8ohm
- line output : 0dB (0.775Vrms)
- power supply : 7 - 9V AC or 9 - 12V DC / 150mA
- PCB dimensions : 2.5" x 2.1"
- recommended housing : G416

MONO 65W PURE CLASS A TUBE POWER AMPLIFIER WITH KT88 TUBES ▸▸ K8010

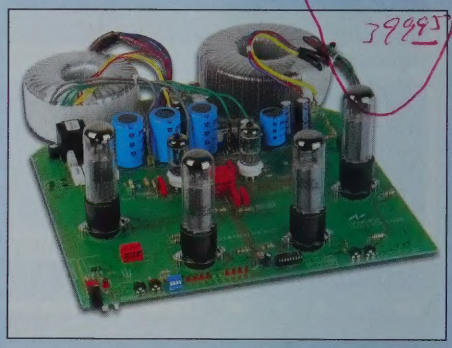


Plenty of power, deep bass and low distortion, yet still affordable. This single channel tube amp delivers up to 65W of pure class A power, due to its KT88 output penthodes. A attractive chrome plated enclosure has been designed, to match this state-of-the-art design. It comes complete with chrome plated tube base cover rings and heavy duty cabinet feet.

FEATURES :
- 4 quality KT88 tubes in push-pull combination
- gold plated heavy duty speaker and RCA connectors
- easy bias adjustment with LED readout
- standby mode stretches tube life
- soft start circuit prevents mains fuse tripping at power-up
- no-compromise quality components
- custom made oversized toroid output and power transformers
- one single PCB ensures hassle free assembly and wiring
- removable cabinet bottom for hassle free servicing

SPECIFICATIONS :
- tubes : 4 x KT88, 1 x ECC81, 1 x ECC82
- output power : 65Wrms class A in 4 or 8ohm
- bandwidth : 8Hz to 80kHz (-3dB/1W)
- harmonic distortion : 0,1% at 1W/1kHz
- signal/noise ratio : >110dB (A-weighted)
- input sensitivity : 1V rms minimum (adjustable)
- supply voltage : 100, 120, 230 or 245V AC
- max. power consumption : 300VA
- dimensions : 14.2" x 14.2" x 6.3"

MONO 90WRMS TUBE POWER AMPLIFIER MODULE ▸▸ K8011

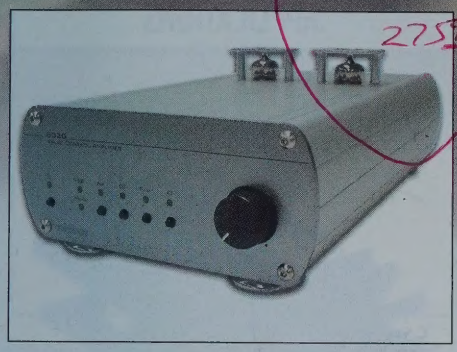


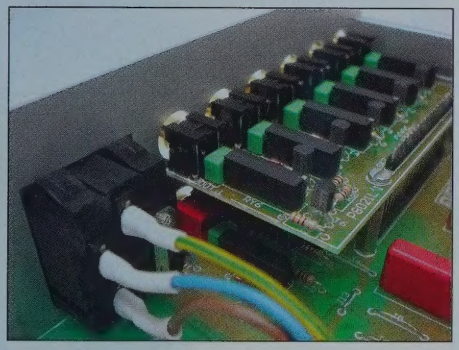
Upgrade your guitar amp, jukebox or construct your own audio system with this superb tube amplifier module. Plenty of power, very low distortion, excellent bass response, this amp will satisfy even the most critical listener. It comes complete with PCB, toroidal custom made power and output transformers, all necessary tubes and an extensive manual.

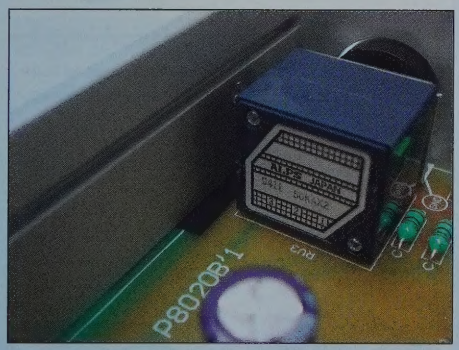
FEATURES :
- 4 quality EL34 tubes in push-pull combination
- easy bias adjustment with LED readout
- standby mode stretches tube life
- soft start circuit prevents mains fuse tripping at power-up
- no-compromise quality components
- custom made oversized toroid output and power transformers
- one single PCB ensures hassle free assembly and wiring

SPECIFICATIONS :
- tubes : 4 x EL34, 1 x ECC81, 1x ECC82
- output power : 90Wrms at 4 or 8ohm
- bandwidth : 2Hz to 125kHz (-3dB/1W)
- harmonic distortion : 0,1% at 1W/1kHz
- signal/noise ratio : 104dB (A-weighted)
- input sensitivity : 1Vrms minimum (adjustable)
- stand-by power consumption : 60W
- max. power consumption : 230W
- assembled module dimensions : 12.6" x 13.6" x 5.0"

TUBE CONTROL AMPLIFIER ▸▸ K8020







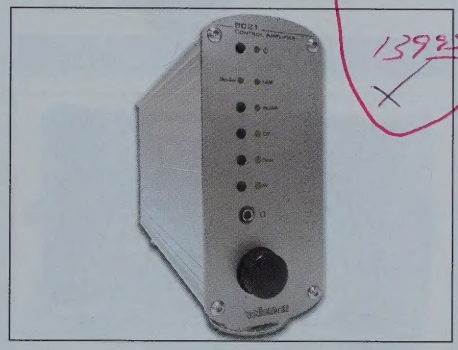
FEATURES :

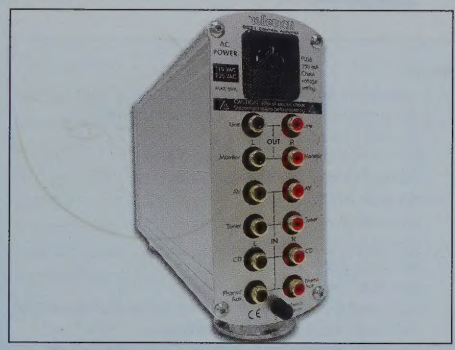
- no compromise high-end design
- 4 inputs
- exclusive, high finish, solid aluminum enclosure
- high quality ALPS volume potentiometer
- full tube design
- auto muting (warm up) at power on
- highly reliable reed relay input selection
- separate left and right input section
- programmable level adjustment : +6dB for each input
- regulated DC filament supply
- output mute function
- switchable monitor output (for tape, CDR, MD,...)
- exists also in mounted version : M8020

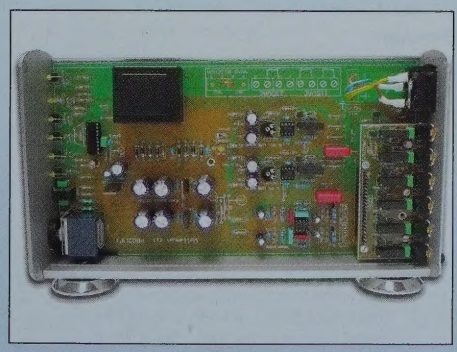
SPECIFICATIONS :

- input sensitivity for 0dB (0.775Vrms) out : approx. 200mV / 50Kohm
- maximum output level : 35Vpp
- output load impedance : 10K or higher
- signal to noise ratio (A-weighted ref. 0dB out) : 100dB
- total harmonic distortion : <0.04% @1kHz / 47K load
- gain : x2 or x4(+ 6dB on)
- frequency response :
  - 7Hz to 150kHz (-3dB) @ x2 gain
  - 18Hz to 55kHz within 0.3dB
- channel separation : 85dB @ 0dB in
- input cross talk : < -100dB @ 0dB in
- AC power : 115V AC (100V to 120V)
- consumption : 16W max.
- dimensions : 11.4" x 6.5" x 2.7"
- weight (net) : 6lb

HIGH-END CONTROL AMPLIFIER ▸▸ K8021







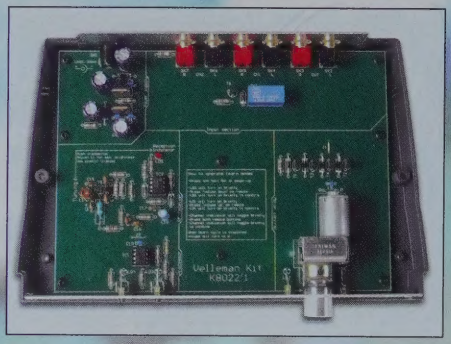
FEATURES :

- no compromise high-end design
- 4 inputs
- exclusive, high finish, solid aluminum enclosure
- high quality ALPS volume potentiometer
- audio grade selected op-amps
- capacitor-less output coupling
- highly reliable reed relay input selection
- separate left and right input section
- programmable level adjustment : +6dB for each input
- headphones output
- output mute function (except phones)
- phono RIAA input section
- phono input can be configured as line input
- switchable monitor output (for tape, CDR, MD,...)
- exists also in mounted version : M8021

SPECIFICATIONS :

- input sensitivity for 0dB (0.775Vrms) out :
  - PHONO : 3mV / 47Kohm
  - LINE : 200mV / 50Kohm
- maximum output level : 26Vpp
- signal to noise ratio (A-weighted ref. 0dB out) :
  - LINE : >105dB
  - PHONO : 83dB
- total harmonic distortion : 0.003% @1kHz
- gain : x2 or x4 (+ 6dB on)
- frequency response :
  - 4Hz to 500kHz (-3dB) @ x2 gain
  - 10Hz to 100kHz within 0.3dB
- channel separation : 90dB @ 0dB in
- input cross talk : < -100dB @ 0dB in
- headphones output : 250mW max. @ 32ohms
- AC power : 115V AC (100V to 120V) or 230V AC (220V to 240V)
- consumption : 6W max.
- dimensions : 11.4" x 6.5" x 2.7"
- weight (net) : 4.8Lbs

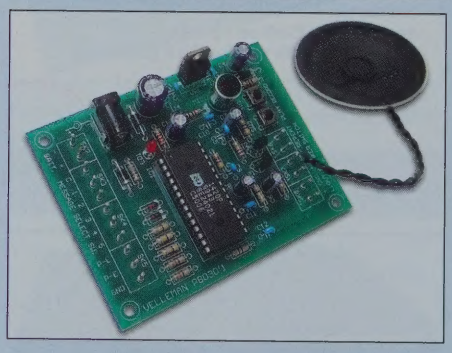
PASSIVE PREAMP WITH RF REMOTE CONTROLLER ▸▸ K8022



FEATURES :
- two stereo level RCA inputs
- one stereo RCA output to power amp
- motor controlled volume control
- RF remote control for all functions
- the remote does not need to 'see' the receiver
- self-learning code
- range : up to 50ft depending on environment
- manual operation possible
- gold plated RCA connectors
- relay controlled input selection
- totally passive

SPECIFICATIONS :
- preamp :
  - inputs : 2 (line level)
  - output : 1 (line level)
  - input impedance : 5Kohm
  - output impedance : < 2.5Kohm
  - volume control speed : 15 sec. typ. (0 to max. volume)
  - power supply : 12V DC / 300mA
  - dimensions : 9.3" x 6.5" x 1.9"
- remote control :
  - 433MHz operation
  - approved design (report BLC/96-0452 according to I-ETS 300 220)
  - key chain-style
  - battery (not included) : 12V type V23GA, GP23A, ...
  - dimensions : 1.5" x 0.6" x 2.3"

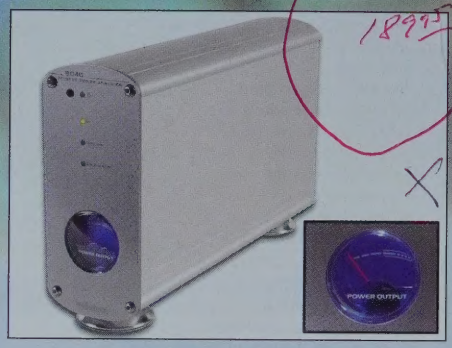
ELECTRONIC RECORD/PLAYBACK MODULE ▸▸ K8030

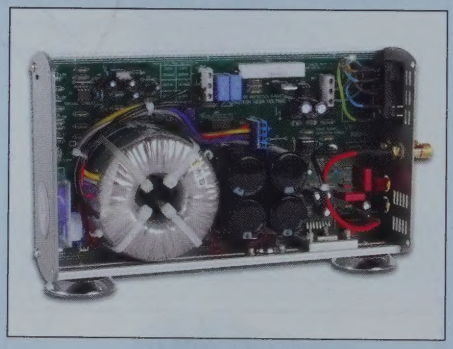


High-quality, natural voice/audio reproduction. Can be used to greet visitors, play pranks, warn burglars,& EEPROM technology with 100-year message retention. Microphone included. Up to 20 seconds of recording time per module. No memory loss in case of power failure. Loudspeaker and line-out included. 2 Play modes : Push once to play message / Play message until button is released. Add an optional rotary switch (8404-10) for message selection.

SPECIFICATIONS :
- speaker output : 12mW, 8 ~ 16 ohm
- power supply : 8 - 18V DC, or 6V battery (4 x AA or AAA) (not incl.)
- power consumption :
  - DC power supply : 4mA in standby, max 100mA when playback
  - battery operated : 20µA in standby, max 100mA when playback
- sampling frequency : 6.4kHz
- dimensions : 3.7" x 2.9" x 1.0"
- recommended housing : WCAH2852

INTEGRATED MONO MOSFET AMPLIFIER ▸▸ K8040



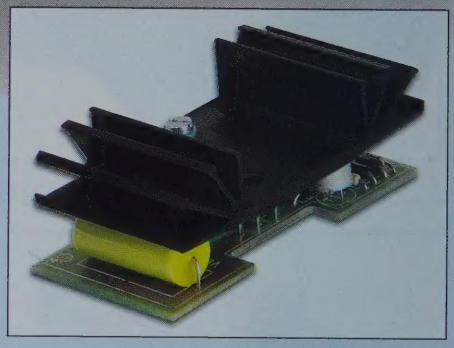


FEATURES :
- no compromise high-end design
- ideal to place next to the speaker (short wires to the speaker)
- auto-power on possibility when input signal is sensed
- auto-standby function when no input signal is sensed
- exclusive, high finish, solid aluminum enclosure
- high quality D-MOS IC output stage
- total of 40.000µF power supply capacitors
- relay-less speaker DC protection
- Real Clipping distortion indication
- power output level indication with backlight
- bypass output to drive bi-wired speakers using separate amplifiers
- double overheating protection with LED indication
- high grade speaker and input connections
- overload protection

SPECIFICATIONS :
- input :
  - input sensitivity for maximum output : 0dBm (= 0.775Vrms)
  - input impedance : 15Kohm
  - minimum auto switch on voltage : 5mVrms
- output :
  - maximum RMS output power 4ohm : 90W
  - maximum RMS output power 8ohm : 70W
  - dynamic RMS output power in 4ohm : 125W
  - minimum load impedance : 4 ohm
  - damping factor (ref. 8ohm 100Hz) : > 1000
- audio :
  - signal-to-noise ratio (A-weighted ref. max. out) : >105dB
  - total harmonic distortion : 0.003% @ 1kHz ref 1W
  - frequency response : 9Hz to 120kHz (-3dB) in 50W
- power requirements :
  - AC power : 115V AC (110V to 120V) or 230V AC (220V to 240V)
  - consumption : 100W max.
- dimensions : 11.4" x 6.5" x 2.7"
- weight (net) : 7.5 Lbs

ALARMS AND AUTOMOTIVE APPLICATIONS

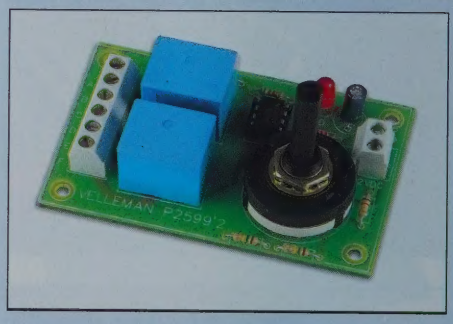
ELECTRONIC TRANSISTOR IGNITION FOR CARS ▸▸ K2543



Gives your car the feel of an expensive luxury car. Better starting and smoother running, particularly at very high and very low RPM. Lower fuel consumption, less pollution, lower servicing costs. Drive economically, drive electronically. Only for petrol/gasoline engines. Only for cars with negative ground.

SPECIFICATIONS :
- max. current : 4A
- connection speed : up to 500kHz
- PCB dimensions : 2.8" x 1.4"
- recommended housing : G304

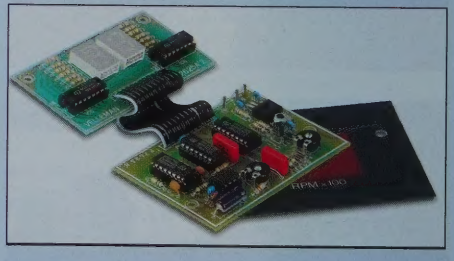
WINDSHIELD WIPER ROBOT OR INTERVAL TIMER ▸▸ K2599



Up to 3 different time intervals (2 - 10 - 15 seconds) can be selected for the windshield wipers of your car. It can also be used for automatic slide projection.

SPECIFICATIONS :
- relays on PCB : 2 inverters
- power supply : 12 - 15V DC
- PCB dimensions : 3.2" x 2.2"

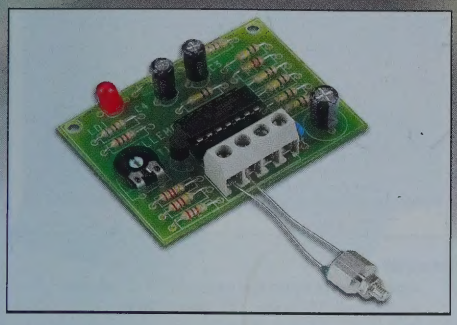
DIGITAL TACHOMETER ▸▸ K2625



For cars or motorcycles with a petrol engine. May be used as a general purpose revolution counter.

SPECIFICATIONS :
- range : 100 - 9900 revolutions/minute
- 2 digit display
- easy calibration
- power supply : 10 - 15V DC / 200mA
- PCB dimensions : 3.2" x 1.8" + 3.2" x 2.4"
- front panel dimensions : 2.8" x 3.5"

FROST INDICATOR ▸▸ K2644

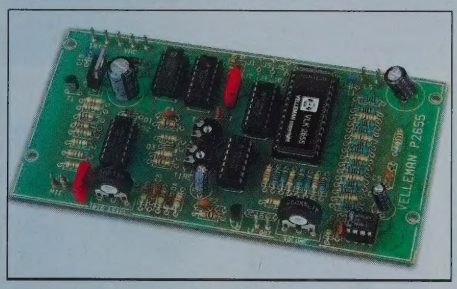


Drive more safely in freezing weather. This kit uses a flashing LED to indicate a road temperature close to freezing point ; below that point the LED is on continuously. A reliable temperature sensor with mounting stud is included.

SPECIFICATIONS :

- power supply : 10 - 15V DC / 25mA
- PCB dimensions : 2.2" x 1.7"
- recommended housing : G404

ELECTRONIC WATCHDOG ▸▸ K2655

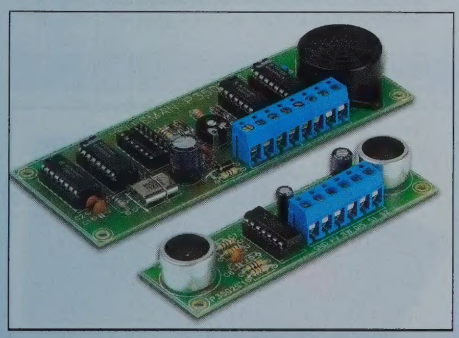


A circuit that produces a natural sounding barking dog with a sensitive "ear" to everything that comes near it. It is a faithful watchdog, which never sleeps and never has to be taken out for a walk.

SPECIFICATIONS :

- power supply : 2 x 8V AC or 9 - 12V DC / 500mA
- choice of two different "dog sounds"
- reacts to surrounding noise with adjustable sensitivity
- speaker output : 2W at 4ohm
- PCB dimensions : 5.6" x 3.0"

PARKING RADAR ▸▸ K3502



If you have problems parking then this kit is for you. Using (ultrasonic) sound waves, whose frequency is beyond our range of hearing, we can "measure" a distance. Consequently, a sensor mounted at the back of the car can give an indication of the distance between your car and the car parked behind you or other obstacles (only at the same height as the sensor). When the preset minimum distance is crossed, an audible signal is generated.

SPECIFICATIONS :

- detection range : 5cm - 1.5m (adjustable)
- detection angle : 5±
- supply voltage : 10 - 15V DC / 16mA
- PCB dimensions :
  - sensor : 1.1" x 3.7"
  - base : 1.9" x 4.9"
- recommended housing : G416 or G407

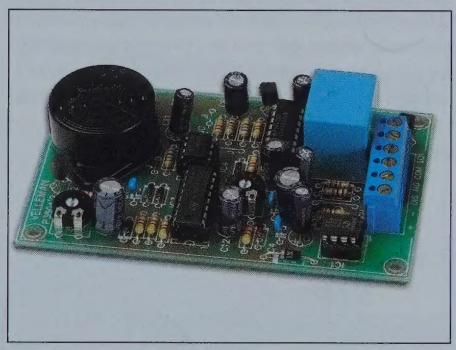
CAR AUDIO AMPLIFIER 2 X 100W ▸▸ K3503

At last a kit that enables you to build an affordable high power amplifier for your car. Thanks to its universal connections, this power amplifier may be connected to any equipment. For trucks, it can be adapted to be supplied from a 24V source. Complete with heatsink and housing.

SPECIFICATIONS :

- output power : 2 x 100W max.
- power supply : 14.3V DC (10 - 16V DC allowed) / adjustable to 24V DC (20 - 30V DC allowed)
- double switched mode power supply (PWM) with MOSFET transistors
- CD/LINE/LS input, selectable
- frequency response : 10Hz - 100kHz (CD input)
- input impedance : 47K or 135ohm
- supplied with housing
- dimensions : 9.8" x 7.5" x 2.0"

CAR ALARM ▸▸ K3504

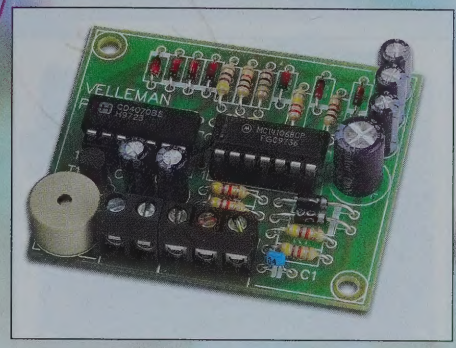


The alarm detects sudden voltage drops of the battery when the interior, trunk, or hood lights are switched on. To ensure correct operation, a number of control indications have been included, such as : flashing LED to indicate that the alarm is in standby mode after a set time (after you have left the car). Pre-alarm (built-in buzzer) to indicate that the alarm is activated, so that you will not forget to switch it off. The alarm is easy to switch on and off, either automatically or by means of the ignition switch or a remote control unit, such as the K6706B or K6706G /K6707 or K6708 (see p.40) /K6709.

SPECIFICATIONS :

- detects voltage drops of the battery
- entry delay time : 2 to 30 seconds with buzzer indication
- exit delay time : 2 to 180 seconds with LED indication
- alarm period : 60 seconds with automatic reset
- power supply : 12V
- standby current : 25mA
- relay output : 5A
- PCB dimensions : 2.4" x 3.9"

CAR LIGHT WARNING ALARM ▸▸ K3505

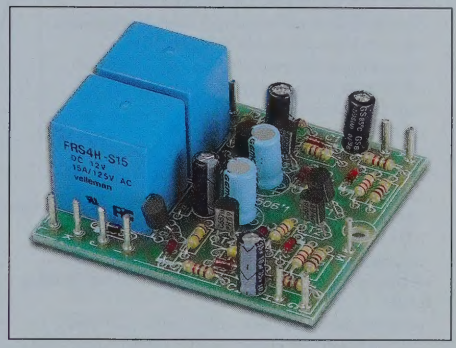


This head light indicator may be set for one or two functions. To indicate that the head lights (or the side lights) should be switched off after switching off the ignition contact (battery protection). Or to indicate that the head lights should be on once ignition contact is switched on (obligatory in some countries).

SPECIFICATIONS :

- continuously repeated alarm tone for lights ON (may be disabled)
- repeated alarm tone for lights OUT
- only 3 wires are required for hook-up
- supply voltage : 12V DC
- PCB dimensions : 1.9" x 2.2"

ANTI SPEAKER PLOP FOR K3503 CAR AUDIO AMPLIFIER ▸▸ K3506



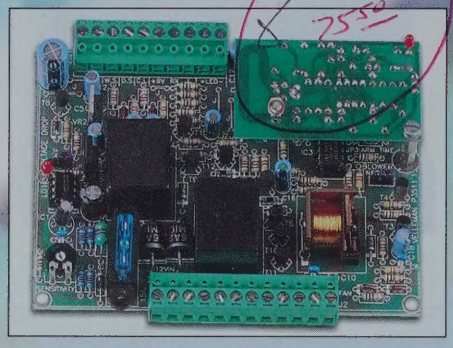
Prevent any annoying plop occurring in speakers when switching the K3503 (see p.39) car booster on and off. In addition, it provides protection for the MOSFET transistors and the car battery (monitoring the voltage drop). The entire circuit can be built into the car booster housing.

SPECIFICATIONS :

- soft start of the switched mode power supply
- switch-on delay of the speakers : ″ 2 seconds
- immediate switch-off of the speakers when switching off the booster
- voltage monitor : switch off at +/- 10V
- only suitable for VELLEMAN K3503 (see p.39) 2 X 100W car booster
- PCB dimensions : 2.2" x 2.0"

A

REMOTE CONTROLLED CAR ALARM SYSTEM (RF) ▸▸ K3511

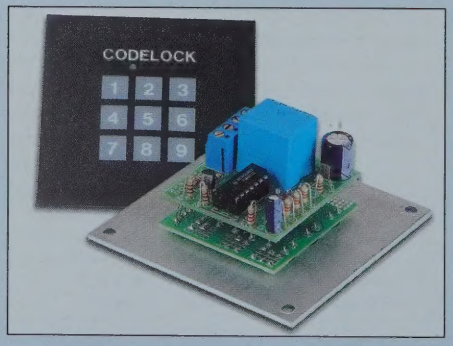


This outstanding car alarm is full of potential, able to connect up with and operate a variety of sensors. In addition, the remote control facility (RF) allows the central locking system to be operated together with the alarm.

FEATURES :
- microprocessor technology
- multi-functional remote control operation
- audio and visual on/off indicators
- multifunction dashboard mounted LED
- automatic reset after alarm
- adjustable voltage drop (reaction to interior lighting)
- voltage drop detection active immediately, or after 5 minutes
- direct alarm trigger input (direct alarm after triggering)
- warning alarm trigger input (2 triggers within 15 seconds = alarm)
- warning input can be switched off with the remote control
- adjustable shock detector (can be switched off with the remote control)
- detector input for ventilator in order to avoid false alarms
- contact switches for bonnet and boot
- internal siren for on/off signal and alarm
- output for external siren and pager (5A)
- alarm time : 30 seconds
- starter interrupter for ignition or diesel fuel pump (15A)
- special starter motor interrupter relay (30A) supplied
- switch on protection if contact is on
- output to hazard lights (2 x 6A max.)
- output for central locking (100mA)
- selectable code for remote control transmitter and receiver (8.748 codes)
- an unlimited number of remote control transmitters can be used (K6706B or K6706G)
- automatically resets in the event of accidental switch off (60 seconds)
- connection for extra starter interrupter via security code lock module (SP150)
- diagnosis facility to identify a triggered sensor at a later time

SPECIFICATIONS :
- supply voltage : 12V DC
- consumption : 50mA in standby
- temperature range : -40 to +185±F
- battery for remote control unit : 12V type V23GA, V23A (not incl.)
- recommended housing : 6313 ()
- in option :
  - SP150 () ignition cut-off system

CODE LOCK ▸▸ K6400

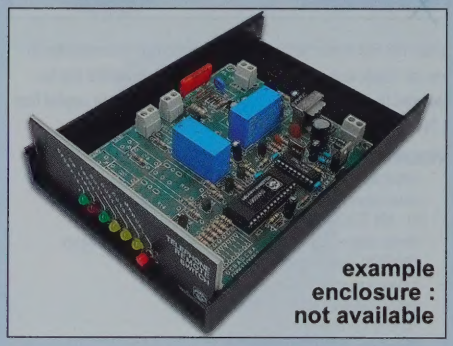


This code lock may be used to switch an alarm (e.g. car alarm K3504 (see p.39)) on and off, or to open a door lock. An LED on the operating panel indicates the position of the 'lock'. The code is easy to define. Because the operation panel is completely enclosed, it may be used inside and outside the house.

SPECIFICATIONS :
- more than 3000 codes (4 digits)
- relay output : 5A / 110V
- time limit for code entry : ″ 5 seconds
- power supply : 9 - 15V DC or 8 - 12V AC
- power consumption :
  - output on : 40mA
  - output off : 0.3µA
- dimensions : front panel : 3.2" x 3.2", depth : 1.6"

REMOTE CONTROL UNITS & DOMOTICS

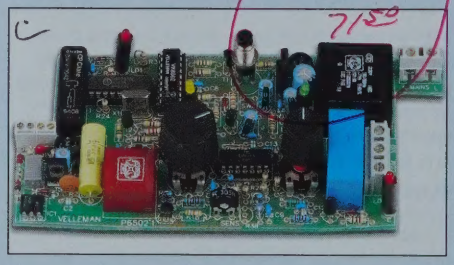
REMOTE CONTROL BY TELEPHONE ▸▸ K6501



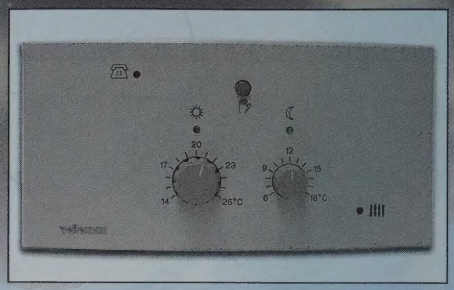
This kit makes it possible to turn up to three devices on or off over the telephone. It is also possible to check the condition of a switch (open or closed). Example : when you are away on holiday, you may switch the lights on and off from time to time, check the alarm or turn on the heating before returning home. A major advantage of this circuit lies in the fact that audio signals are used to tell whether a specific output has been turned on or off. Operation is protected by a user defined code, which is simply keyed in from the telephone keypad.

SPECIFICATIONS :
- a relay is included for one output : 10A / 250V AC
- automatic pick-up can be selected for ″ 8 or ″ 3 rings
- automatic hang-up if no code is entered within 20 seconds
- supply voltage : 12V AC / 300mA
- dimensions : 4.1" x 5.1"

THERMOSTAT WITH REMOTE CONTROL VIA THE TELEPHONE ▸▸ K6502

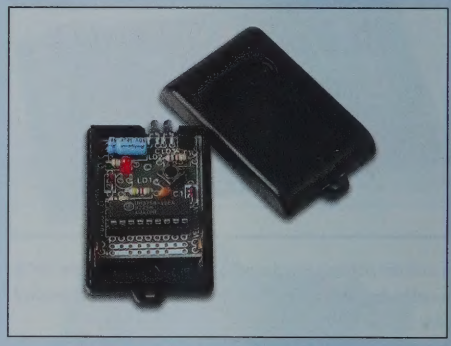


The thermostat is used as any other one, but with the added facility of choosing the day or night temperature setting by means of a telephone. The remote control facility is operated via the telephone keypad, thus a DTMF type phone is required. From audio signals sent down the line, the user receives a report back on how the thermostat is set. Switching is protected by a security code, set by the user, which is keyed into the telephone in a simple manner.



SPECIFICATIONS :
- separate settings for day and night temperature with LED indication
- relay output with LED indication : 5A / 240V AC (1200W)
- telephone pick-up after ″ 3 or 8 rings
- report when the temperature has fallen below 37.4±F
- automatic hang-up if no code is received within 40 seconds
- possible security codes : from 000 to 999
- day temperature : from 57±F to 79±F
- night temperature setting : from 43±F to 64±F
- hysteresis (allowed temperature swing) : 0.1±F
- local manual control
- supply voltage : 110V AC

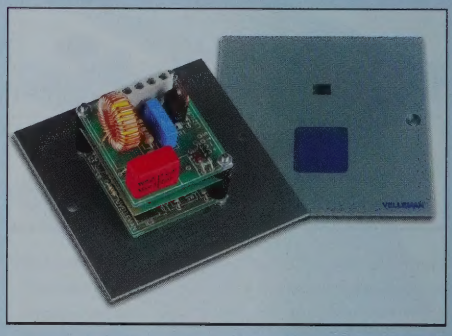
1-CHANNEL IR CODE LOCK TRANSMITTER ▸▸ K6708



This transmitter is suitable to control the infrared code lock receiver K6709 () . A choice can be made from over 8000 codes.

SPECIFICATIONS :
- one channel
- distance transmitter / receiver : ″ 23'
- LED on / off indication and battery level indication
- key holder housing
- power supply : 12V battery type V23GA, GP23GAC (not incl.)
- dimensions : 1.4" x 0.6" x 2.2"

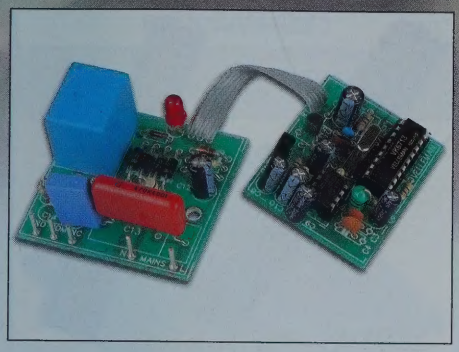
IR REMOTE CONTROLLED DIMMER ▸▸ K6712



This one channel IR receiver/dimmer works together with the 15 channel IR transmitter (K6710 () & K8049 (see p.42)). The receiver code can be set to 1 of the 15 transmitter codes so that 15 receivers can be operated (K6712 and/or K6713 (see p.41)) independently of each other. Thanks to its compact design this kit fits into a standard light switch housing.

SPECIFICATIONS :
- max. load : 2A (4A with heatsink)
- supply voltage : 110V AC / 60Hz
- transmitter / receiver distance : max. 23'
- not suitable for halogen lights

1-CHANNEL IR RECEIVER ▸▸ K6713

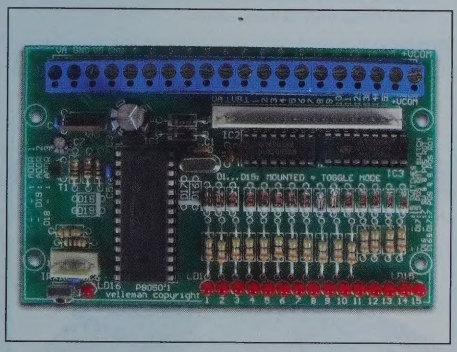


This single channel IR receiver works together with the K6710 () & K8049 (see p.42) 15 channel IR transmitter. The receiver code can be set to 1 of the 15 transmitter codes, so that 15 receivers can be operated (K6712 (see p.40) and / or K6713) independently of each other.

SPECIFICATIONS :

- transmitter / receiver range : up to 29.5'
- relay output : 240V / 5A (switch or pulse contact)
- supply voltage : 115V AC
- recommended housing : B6713

15-CHANNEL INFRARED RECEIVER ▸▸ K8050



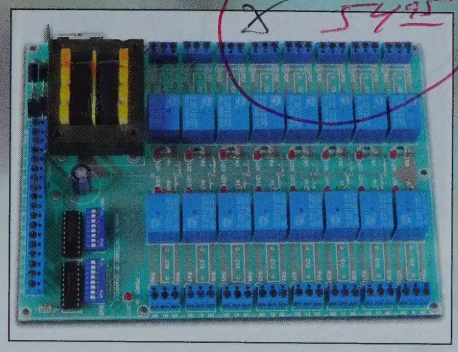
FEATURES :

- works together with K6710, K8049 (see p.42) , K8051 (see p.42) , K8055 (see p.44) , K8056 (see p.41) , K6714 (see p.41) , K6714-16 (see p.41) , K2633 (see p.43) , ...
- 15 open collector contacts : max. 50V/50mA
- LED indication for each output
- multiple IR sensors possible (type : IR38DM)
- transmitter - receiver range : up to 20m
- 4 different modes :
  - 15 independent outputs
  - 15 rotary outputs
  - 7 independent outputs & 8 rotary outputs
  - 7 rotary outputs & 8 rotary outputs (independent from each other)
- 3 addresses allow the use of multiple receivers in one room
- optional board-to-wire connectors-female :BTWF5 & BTWF20

SPECIFICATIONS :

- power supply : 8 ~ 14VDC or 2x6 ~ 2x12VAC (150mA)
- current consumption :
  - all outputs off : 10mA
  - all output on : 150mA
- dimensions : 2.8" x 4.5"

UNIVERSAL RELAY CARD WITH 16 RELAYS ▸▸ K6714-16

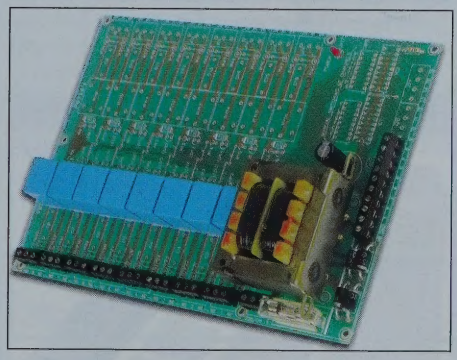


16 relays and screw connectors included ! Power supply transformer is included. Output 12V CC can be used as a power supply for other kits: K6714 (see p.41) , K8023 (see p.42) ,... Every output of the print can be equipped with a noise suppressor network.

SPECIFICATIONS :

- the relays can be controlled in different ways : direct control from open-collector outputs, TTL or CMOS level
- DIP switches are included to allow manual activation of the relays in case of maintenance work
- 16 relay outputs
- contact : 10A / 28V DC or 125V AC, max. 5A at 230V AC
- power supply : 125V AC max. 12VA
- output voltage : 12V / 250mA
- PCB dimensions : 5.9" x 8.4"

UNIVERSAL RELAY CARD ▸▸ K6714



If you want to switch large electric currents using an electronic control and require control isolation at the same time, then this card is a valuable asset.

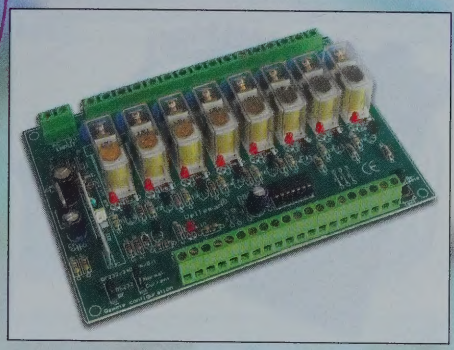
FEATURES :

- also available with 16 relays : K6714-16 (see p.41)

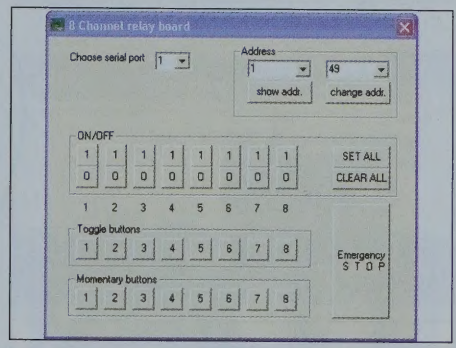
SPECIFICATIONS :

- 8 relays included (extendible to 16)
- the relays can be piloted directly of through open-collector outputs
- contact : 1 x inverter: 10A / 28V DC or 125V AC, max. 5A at 230V AC
- relay switch-over contact : max. 5A at 220V
- output voltage : 12V / 250mA for power supply
- power supply : 220 or 115V AC / 12VA
- PCB dimensions : 5.9" x 8.4"

8-CHANNEL RELAY CARD ▸▸ K8056



This relay card can be used in several ways : stand alone card, addressed by switches or open collector outputs or remote controlled through RS232. In option remote controlled using RF (radio frequency) signals (K8058 (see p.42) remote control + RX433 module). Since the card can be addressed using RS232 commands, you may write custom applications in any programming language on any platform. Test software can be downloaded from our web site.



FEATURES :

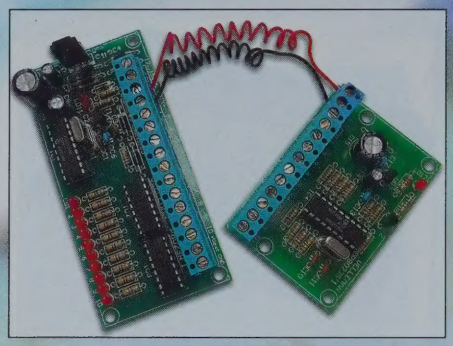
- DIAGNOSTIC / TEST SOFTWARE :
  - separate relay on/off test with moment or toggle function
  - clear all / set all relays function
  - address selection : up to 255 cards can be selected
  - emergency stop for all cards
- minimum system for test software :
  - Pentium class CPU
  - Windows 95 or higher
  - mouse and free RS232 port

SPECIFICATIONS :

- 8 high quality relay contacts : 5A/230Vac max.
- relay outputs are transient suppressed using VDRs
- LED confirmation on each relay contact
- 8 drive inputs to use with open collectors or regular switches
- RS232 input to drive the card with computer or terminal : baud rate: 2400, no parity, 8 data bits, 1 stop bit, high or low impedance selection (10K or 1K)
- optional RF driving possibility using RX433 type module (not simultaneous with RS232) together with K8058 (see p.42) eight channel RF remote control
- power output : unregulated 12Vdc / 200mA
- power supply : 12Vac / 500mA (including 12V output)
- diagnostic software downloadable from our site
- dimensions : 6.3" x 4.2" x 1.2"

A

10-CHANNEL, 2-WIRE REMOTE CONTROL ▸▸ K8023

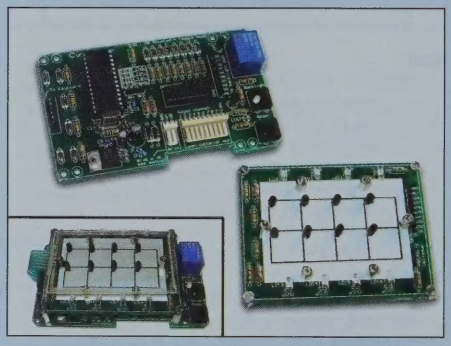


This kit allows you to control up to 10 devices using only 2 wires at a long distance. Microprocessor controlled. Inputs can be push-buttons, switches or open collector outputs from another device. The receiver section provides 10 open collector outputs that allow you to control relays directly. Terminal block connectors for all input and output connections are included. All outputs are provided with LED indication. Can be used with our kits : K8000RS (see p.43) , K8006 (see p.46) ,... Can be connected to our standard relay card : K6714 (see p.41) or K6714-16 (see p.41) .

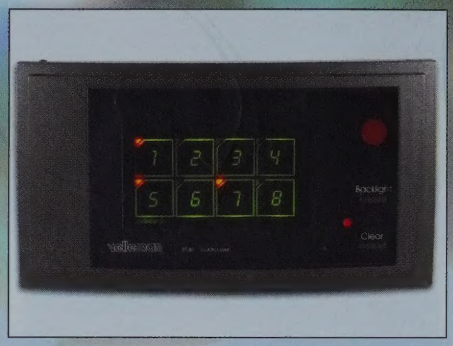
SPECIFICATIONS :

- 10 open collector outputs : 50V / 100mA
- tested to a distance of up to 50m (55 yards) between control- and receiver section
- operating voltage : single 12-15V AC or DC, 300mA
- dimensions :
  - control pcb : 2.7" x 2.0" x 0.6"
  - receiver pcb : 4.0" x 2.0" x 1.0"

USER-DEFINABLE 8-CHANNEL TOUCH PANEL ▸▸ K8046



Ever wanted your own keyboard with your personal layout and symbols ? Here is the solution : Now simply print YOUR keyboard layout on a transparent foil and make your own keyboard ! The function of each key can be selected (momentary or toggle) and each key is backlit. It is even possible to simulate classic "radio keys" (only one output can be ON, just like a rotary switch). One key can be defined as a preset memory or serve as an "all clear" key. Completing the features of this unique keyboard is a "click" sound when the keys are operated. The output can easily be connected to your own applications or to several of our kits : the K8045 (see p.44) LCD message board, the K6714 (see p.41) relay card, the K8006 (see p.46) light system bus unit, the K8000RS (see p.43) computer interface, the K2633 (see p.43) or the K2634 (see p.43) power cards, the K8023 (see p.42) two wire remote, ...



FEATURES :

- max. 8 self-definable keys
- LED status indication for each key/output
- each key can be set up as a toggle key or momentary key
- soft-touch see-through panel with 8 keys
- key layout examples are included
- backlight with dimming function
- unique key-click feedback
- optional IR receiver module : IR38DM
- optional blue backlight : L-934MBC (8 pcs required)
- "design" mounting frame (bezel) is included
- easy board-to-wire connectors
- 4 different functions (jumper selectable) :
  - 8 independent keys (toggle or momentary selectable)
  - 8 radio keys (simulation of rotary switch)
  - 4 radio keys and 4 independent keys
  - 1 key is reserved as a memory key or an "all clear"-key

SPECIFICATIONS :

- 8 open-collector switches : max. 50V / 100mA
- board to wire connectors : 7.9" wire
- dimensions (frame included) : 6.5" x 3.5" x 1.4"
- keyboard operating force : 1.4 oz. (with R0.8mm test point)
- keyboard life : 1000000 operations with R3mm rubber
- power supply : 9V AC or 12V DC / max. 250mA
- dimensions : 6.5" x 3.5" x 1.4"

15-CHANNEL IR TRANSMITTER ▸▸ K8049

FEATURES :

- compatible with : K6711, K6712 (see p.40) , K6713 (see p.41) , K8046 (see p.42) , K8050 (see p.41) , K4100 (see p.35) , K4500, MK161 (see p.13) , MK163 (see p.13) , MK164 (see p.13)
- 4 addresses allow the use of multiple receivers in one room

SPECIFICATIONS :

- power supply : 3 x 1.5V AAA batteries
- up to 15 channels can be operated
- rubber keypad
- LED function indication
- compatible with most Velleman IR receiver kits

15-CHANNEL IR REMOTE STICK ▸▸ K8051

The K8051 15-channel IR Remote Stick features a sleek designer enclosure with just 2 buttons, yet it provides access to a stunning 45 channels (3 addresses with 15 channels each). The built-in 'all clear'-function allows the user to turn-off all channels of the current address at the same time. Channel and address selection is straightforward and easy. Even in total darkness you can select the correct channel and operate the remote.

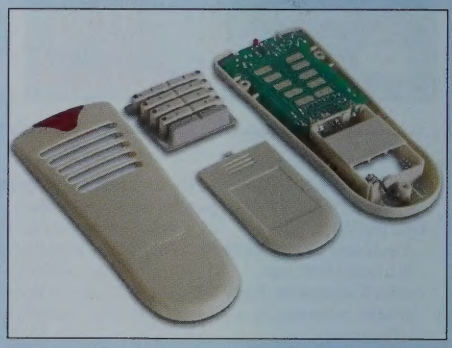
FEATURES :

- compatible with most current and upcoming Velleman IR kits : K6711 15-channel IR receiver, K6712 (see p.40) IR dimmer, K6713 (see p.41) 1-channel IR receiver, K8046 (see p.42) 8-channel touch screen, K8050 (see p.41) addressable 15-channel IR receiver
- single button channel selection and operation
- code is recognized by most learning remotes

SPECIFICATIONS :

- range : up to 20m (K8050 / indoors)
- power supply : power supply
- low power consumption
- dimensions : 6.3" x 1.1" x 0.9"

8-CHANNEL RF REMOTE CONTROL ▸▸ K8058



FEATURES :

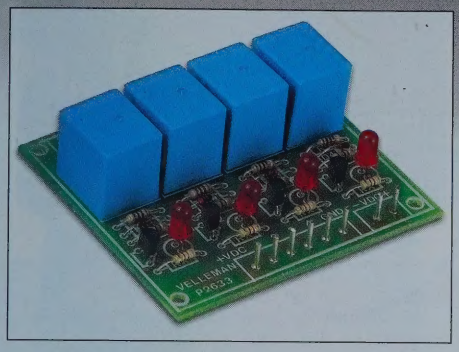
- works together with the K8056 (see p.41) relay card
- 8 addresses allow the use of multiple receivers
- 'all clear'- function
- toggle or momentary mode for each key
- open-field range up to 50m
- rubber keypad

SPECIFICATIONS :

- operate up to 8 channels
- 433MHz operation
- LED function/mode indication
- power supply : 3 AAA batteries
- dimensions : 150 x 58 x 20mm (5.9" x 2.3" x 0.8")

INTERFACE SYSTEMS & PROGRAMMERS

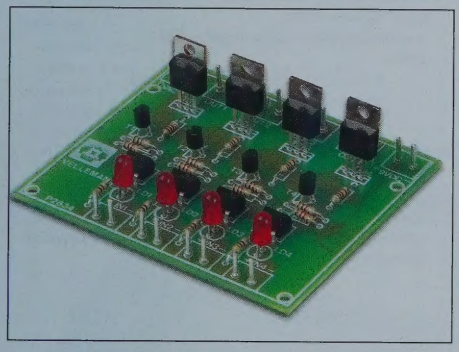
RELAY CARD ▸▸ K2633



Connecting a number of relays to the outputs of an electronic network may seem very simple, but in reality it might possibly create some problems regarding the cabling. This kit provides an attractive and compact alternative. Moreover, it can be assembled and connected very rapidly.

SPECIFICATIONS :
- 4 x 3A relay outputs
- power supply : 9V DC / 300mA
- pcb dimensions : 3.0" x 2.7"

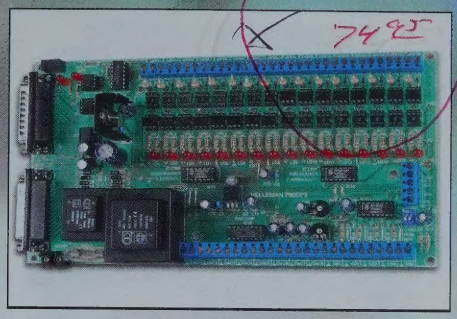
QUAD TRIAC SWITCH CARD ▸▸ K2634



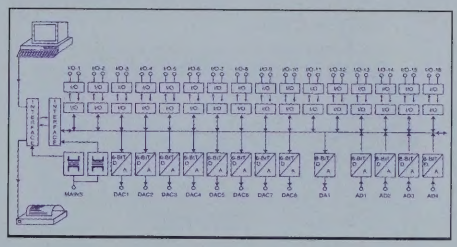
Relays are usually used to switch AC voltages by means of an electronic control because of their simplicity. However, when switching occurs too frequently or too quickly the life time of the contact points is shortened considerably. This can be solved perfectly by replacing the relays with a triac. Using optocouplers, the entire interface network remains electrically isolated from the voltage that has to be switched.

SPECIFICATIONS :
- 4 triac outputs : 4 triac outputs of 1.5A (uncooled, 4A cooled)
- power supply : 9V DC, 200mA
- PCB dimensions : 3.1" x 3.5"
- recommended adapter : PS905USA

INPUT/OUTPUT INTERFACE CARD ▸▸ K8000RS



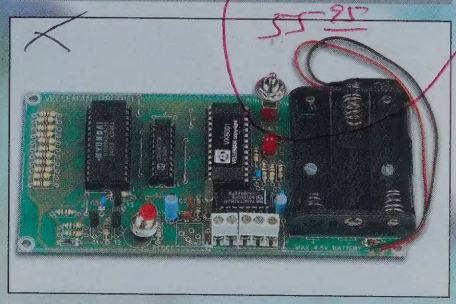
To enable a computer to communicate with the outside world, it is usually fitted with a keyboard, a display and perhaps a mouse. If however it is to be used in certain control applications, or certain control functions are to be carried our, then an interface is needed. The interface card here excels in its simplicity of use and installation. The card is connected in a very simple way to the printer port (there is no need to open up the computer). Likewise there is no need to install an extra printer port, even if a printer is to be used. This can be connected to the card in the usual manner. Connection to the computer is optically isolated, so that damage to the computer from the card is not possible. The card is controlled in a simple way using Turbo Pascal, QBasic, Visual Basic, Delphi, C++ (to use with MS-DOS, Win3.11, Win95, 98, ME, NT, XP, 2000). These procedures are pre-programmed and are provided along with a number of test and example programs on the diskette supplied. The card itself has 16 optically isolated digital connections, which can be freely chosen as either inputs or outputs (eg. 6 inputs and 10 outputs) according to how they are set up by the user. Furthermore, the card has 9 analogue outputs, of which one is high precision, and 4 analogue inputs. If this capacity is not sufficient for a particular application then up to 4 cards can be connected together (1 master and 3 slaves), such that an enormous potential exists. The card can be use d with many of our other kits such as : K6714 16 channel relay card, K8023, 10-channel 2-wire remote control.



FEATURES :
- optically isolated from computer
- 16 optically isolated digital connections
- 9 analog outputs, of which one is high precision and 4 analog outputs
- a simple way of controlling using Turbo Pascal, Turbo C, Qbasic, Visual Basic
- printer bypass connector on board
- simple connection with printer port

SPECIFICATIONS :
- digital outputs :
  - optocoupler, open collector output : 50mA - max. 30V DC
- digital inputs : optocoupler input : 5V/5mA, max. 20V/40mA
- analog outputs :
  - 8 outputs DAC1 to DAC8, resolution : 64 steps
  - minimum output voltage : 0.1V at 2mA
  - maximum output voltage : 11.5V adjustable at 2mA
  - resolution per step from 0.1 to 11.5V : 160mV +/- 90mV
  - 1 precision output DA1, resolution : 256 steps
  - minimum output voltage : 0V
  - maximum output voltage : 4.5V adjustable at 0.5mA
  - resolution per step from 0 to 4.5V : 17.5mV
- analog inputs :
  - 4 analog inputs AD1 to AD4, resolution : 256 steps
  - minimum input voltage : 0V
  - maximum input voltage : 5V
  - input impedance : 50Mohm
  - resolution : 19.5mV
- communication protocol : I²Cbus
- LED indication for each I/O
- 25 pin D series connector for computer
- 25 pin D series connector for printer
- supply voltage : 110V AC
- PCB dimensions : 9.3" x 5.2"

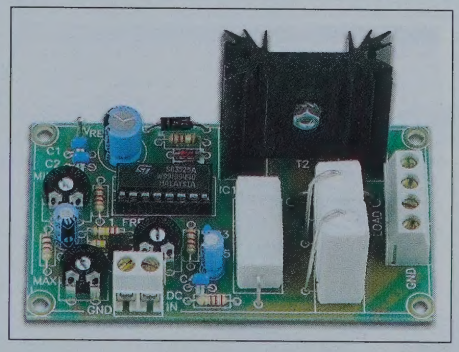
INDEPENDENT PROGRAMMABLE CONTROL MODULE ▸▸ K8001



If it is desired to use the interface card independently, without connecting to a computer, it can be done using this module. The module can be easily connected to the K8000RS (see p.43) card, once programmed it can be decoupled from the computer and the system can continue to work independently. Programming is done using its own instruction set (" 2500 steps) developed for this purpose. Not suitable for use with the K8005 (see p.43) stepper motor card.

SPECIFICATIONS :
- dimensions : 5.9" x 2.9"

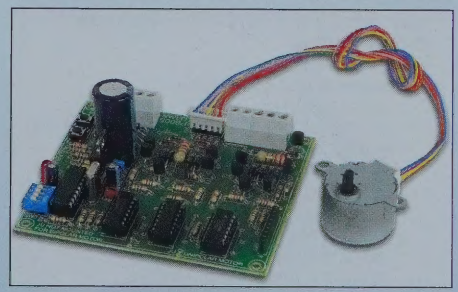
DC TO PULSE WIDTH MODULATOR ▸▸ K8004



This control circuit is ideal for the accurate control of DC motors, lighting levels, small heaters as well as other applications. The circuit converts a DC voltage into a series of pulses, such that the pulse duration is directly proportional to the value of the DC voltage. The great advantage of such a circuit is that almost no power is lost in the control circuit. Protected against overload and short circuit.

SPECIFICATIONS :
- power supply : 8 to 35V DC
- maximum output current : 6.5A
- input voltage : between 2.5 and 35V DC
- dimensions : 3.4" x 1.9" x 1.8"

STEPPER MOTOR CARD ▸▸ K8005



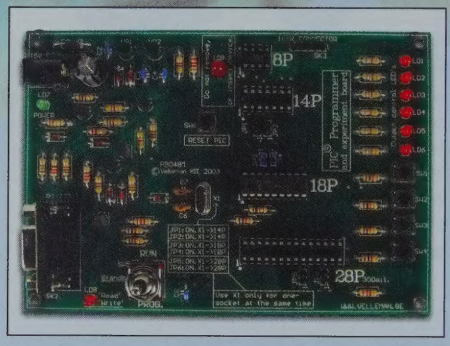
For bi- and unipolar motors (maximum 1A). Easy to connect with K8000RS (see p.43) . High precision possible (up to 0.9±, or even more when using a motor with reduction). While the motor turns you can simultaneously check the status of switches using K8000RS (see p.43) , or drive another motor. You can always give an emergency stop signal. Test program included. Manual test buttons to test the card without K8000RS (see p.43) interface. Can be used in every application where positioning is needed (for example a plotter, a printer, a valve, &). High precision motor included (12V).

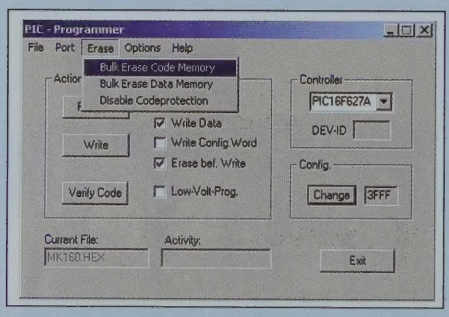
A

SPECIFICATIONS :

- I²C controlled via K8000RS (see p.43)
- communication address of the card (from 0 to 15) selectable via DIP-switches on the PCB (remark : max. 4 x K8005 cards on one K8000 cards)
- adjustable drive speed
- programmable in TurboPascal for DOS, Quick Basic and Visual Basic (Win95/98/ME)
- emergency stop can be sent to one or all cards
- power supply : 7 to 25V DC or AC / 1.5A (maximum current depends of the motor type)
- dimensions : 3.9" x 3.5"
- recommended housing : G386

PIC PROGRAMMER & EXPERIMENT BOARD ▸▸ K8048





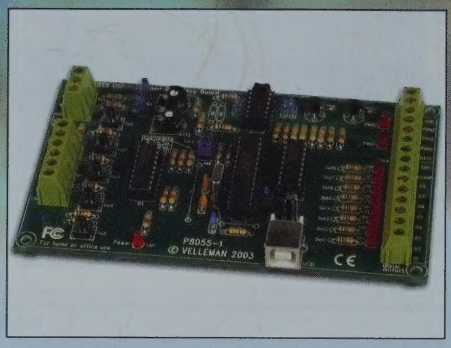
FEATURES :

- suitable for programming Microchip® FLASH PIC"! microcontrollers
- supports 4 different 300 mil. PICs : 8p, 14p, 18p and 28p
- test buttons and LED indicators to carry out educational experiments, such as the enclosed programming examples
- easy connection to a PC through the serial port
- enclosed is a Flash Microcontroller (PIC16F627) that can be reprogrammed up to 1000 times for experimenting at will
- software to compile and program your source code is included
- minimum system requirements :
  - IBM Compatible PC, Pentium or better
  - Windows"! 95/98/ME/NT/2000/XP
  - CDROM
  - free serial RS232 port
  - cable not included : e.g. CW014
- also available in mounted version : VM111 (see p.20)

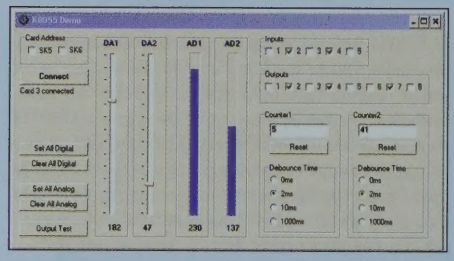
SPECIFICATIONS :

- power supply : 12 or 15V DC, min. 300mA, non-regulated adapter (PS1208USA () (115Vac))
- dimensions : 5.75" x 4"
- Rev 2.5 supports the following microcontrollers :
  - PIC12F629, PIC12F675
  - PIC16C83, PIC16CR83, PIC16F83, PIC16C84, PIC16CR84,PIC16F84, PIC16F84A
  - PIC16F870, PIC16F871, PIC16F872, PIC16F873, PIC16F873A, PIC16F874, PIC16F874A, PIC16F876, PIC16F876A, PIC16F877(A)(ICSP only)
  - PIC16F627, PIC16F627A, PIC16F628, PIC16F628A, PIC16F648A
  - PICF630, PIC16F676
  - PIC16F818, PIC16F819

USB EXPERIMENT INTERFACE BOARD ▸▸ K8055



The K8055 interface board has 5 digital input channels and 8 digital output channels. In addition, there are two analogue inputs and two analogue outputs with 8 bit resolution. The number of inputs/outputs can be further expanded by connecting more (up to a maximum of four) cards to the PC's USB connectors. All communication routines are contained in a Dynamic Link Library (DLL). You may write custom Windows (98SE, 2000, Me, XP) applications in Delphi, Visual Basic, C++ Builder or any other 32-bit Windows application development tool that supports calls to a DLL.



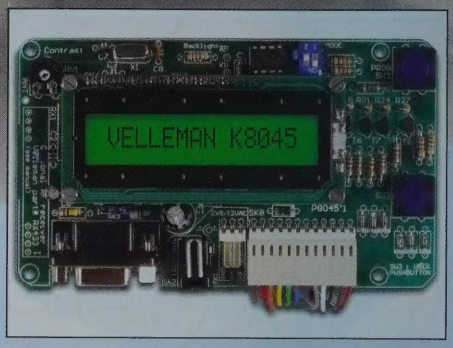
FEATURES :

- DIAGNOSTIC / TEST SOFTWARE :
  - separate output / input test
  - clear all / set all function
  - counter function on inputs 1 and 2 with adjustable debounce (max 2kHz depends on total I/O load)
  - analog output set sliders
  - analog input bar-graph indication
- minimum system requirements :
  - Pentium class CPU
  - USB1.0 or higher connection
  - Windows 98SE or higher (Win NT excluded)
  - CD ROM player and mouse
- also available in mounted version : VM110 (see p.20)

SPECIFICATIONS :

- 5 digital inputs (0= ground, 1= open) (on board test buttons provided)
- 2 analog inputs with attenuation and amplification option (internal test +5V provided)
- 8 digital open collector output switches (max. 50V/100mA) (on board LED indication)
- 2 analog outputs :
  - 0 to 5V, output resistance 1K5
  - PWM 0 to 100% open collector outputs max 100mA / 40V (on board LED indication)
- general conversion time : 20ms per command
- power supply through USB : approx. 70mA
- diagnostic software with DLL included
- dimensions : 5.7" x 3." x 0.8"

8 INPUT PROGRAMMABLE MESSAGEBOARD WITH LCD & SERIAL INTERFACE ▸▸ K8045



FEATURES :

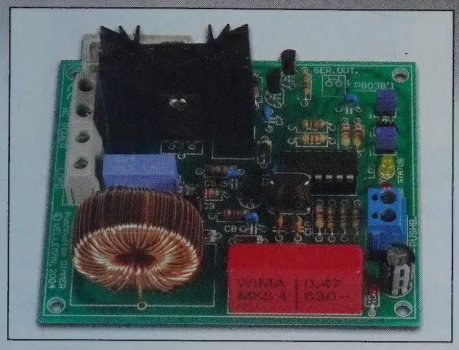
- add an LCD display to any low-tech application and make it look high-tech !
- replace up to 9 indicators or lamps by one single backlit LCD
- recall messages simply by pressing a button
- inputs accept dry contacts, open collectors and logic levels
- no programming skills required !
- store up to 9 sixteen-character messages in non-volatile EEPROM memory
- 4 operating modes :
  - 1) : display the status of all inputs simultaneously
  - 2) : display all active inputs
  - 3) : display active input with highest priority
  - 4) : display text messages in a 'tickertape'-fashion
- a default message can be entered which is displayed when no inputs are active
- messages can be transferred to the K8045 from any PC or terminal
- message transfer software is available from www.velleman.be
- wireless data transfer between PC/terminal and K8045 is possible with optional RX/TX433 modules
- 1 on-board pushbutton available for your application
- options :
  - RF wireless link : RX433 +TX433 (see manual)
  - supertwist HQ display : LCD1601ASL
  - bezel enclosure : B8045

SPECIFICATIONS :

- inputs : 8 inputs (24Vmax)
- display : 16 character 1 line supertwist backlit LCD
- communication : RS232 serial 2400/N/8/1 no handshaking
- power supply : 9-12V DC / 150mA adapter or 2 x 9V AC / 150mA transformer
- dimensions : 4.9" x 2.9" x 1.2"

LIGHT APPLICATIONS & DOMOTICS

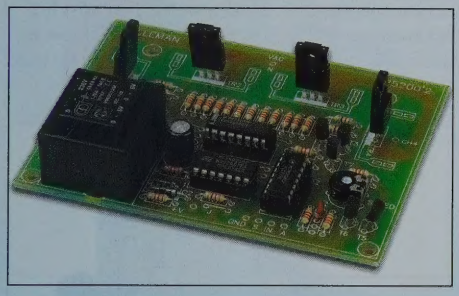
POWER DIMMER, PUSH-BUTTON CONTROLLED (1KW@230V) K8038



FEATURES :
- powerful high-quality dimmer, suitable for incandescent lamps, mains voltage halogen lighting and low voltage halogen lighting in combination with a conventional (wire wound) transformer
- easy push-button operation for dimming of light sources.
- phase control can be disabled
- non-volatile memory for last set light intensity
- lots of safety features to make lamps last as long as possible, such as "offstart" and automatic turn-off after 12h or after 20min at too low intensity
- transformer protection in case of defective light sources
- LED status indication

SPECIFICATIONS :
- suppression of radio & TV interference according to EN55015
- operating voltages : 110-125V or 220-240V AC (50/60Hz)
- max. load : 1000W/230V or 500W/115V (5A)
- max. phase shift with inductive load : 30±
- dimming speed : ″ 5 sec.
- PCB dimensions : 3.5" x 2.9" x 1.6"

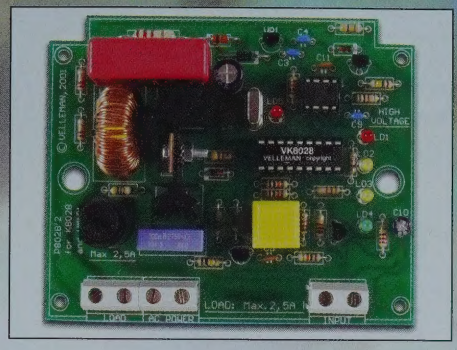
4-CHANNEL SEQUENCER K5200RS



This circuit does more than an ordinary running light : it not only runs in both directions, but it also flashes with two groups of lamps (flip-flop) and with all the lamps at the same time. The 4 light effects follow each other automatically.

SPECIFICATIONS :
- 4 triac outputs : max. 2A each (200W at 110V)
- can be synchronised to mains or can work asynchronously
- running speed : adjustable in asynchronous mode, fixed speed in synchronous mode
- suppression of radio interference in synchronous mode
- supply voltage : 110V AC
- PCB dimensions : 4.3" x 3.4"

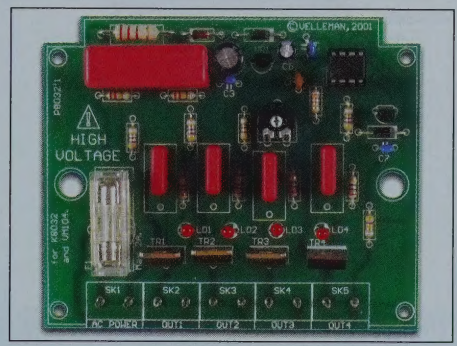
MULTIFUNCTIONAL DIMMER K8028



FEATURES :
- microcontroller technology
- 13 different functions : impulse switch, staircase light control, slow ON/OFF dimmer, interval timer, speed adjustment for fans, etc&
- suitable for both resistive and inductive loads (light bulbs, high-voltage halogen lighting and low-voltage halogen lighting with ferromagnetic transformer)
- "Soft Start" prolongs the life of the bulbs
- an advanced security system with fault indication automatically deactivates the module if the load or no-load behaves too inductively
- can be operated from several locations, simply by the parallel connection of push buttons
- 2 delay times (anywhere between 5 sec. to 2 hours each) can be programmed through the learning mode
- memory is protected against power failures
- equipped with fuse and key for function selection
- equipped with a mains suppressor according to EN55015 norms

SPECIFICATIONS :
- supply voltage : 110-125V or 220-240V AC, 50 or 60Hz
- automatic detection of mains frequency : 50 or 60Hz
- max. load : 2.5A (300W / 120V ; 600W / 230V)
- dimensions : 3.9" x 3.2" x 1.4"

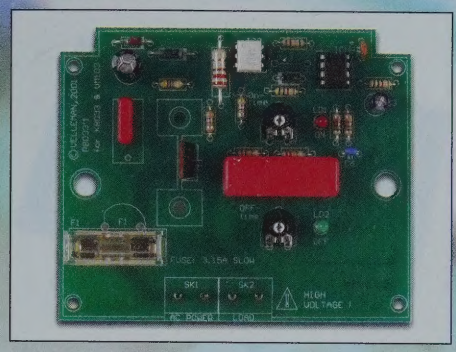
4 CHANNEL RUNNING LIGHT K8032



The running light module is the perfect addition to your existing system if you are looking to create the kind of effects used in a disco. The speed of this module can be adjusted manually. All the outputs are equipped with LED indication.

SPECIFICATIONS :
- suppressed according to EN55015
- adjustable speed for the switching of the charge
- led indication
- AC power : 110 to 240VAC
- max. load per channel : 450W (240VAC) / 230W (115VAC)
- speed adjustable between : 0.2 and 3Hz
- dimensions : 3.9" x 3.2" x 1.4"

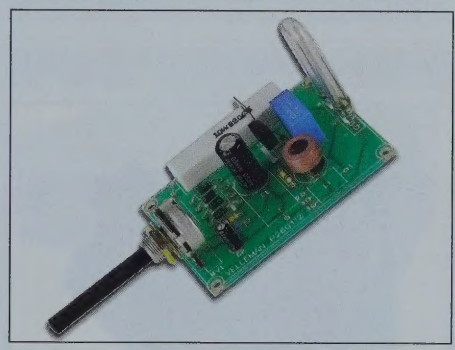
POWER BLINKER K8033



This blinking module was designed for the activation and deactivation of a load (e.g. lighting) in order to obtain a blinking effect. The ON and the OFF duration can be adjusted separately. The blinking module is suited for both resistive and slightly inductive loads. This blinking module is ideally suited for steering e.g. disco lights, safety signs, light bulbs, ferromagnetic transformers for halogen lighting, etc ...

SPECIFICATIONS :
- noise suppressed according to EN55015
- adjustable speed
- led indication
- AC power : 110 to 240V AC
- max. load : 500W (240V AC) / 250W (115V AC)
- ON-time adjustable between : 50ms and 2.5s
- OFF-time adjustable between : 0.5s and 15s
- dimensions : 3.9" x 3.2" x 1.4"

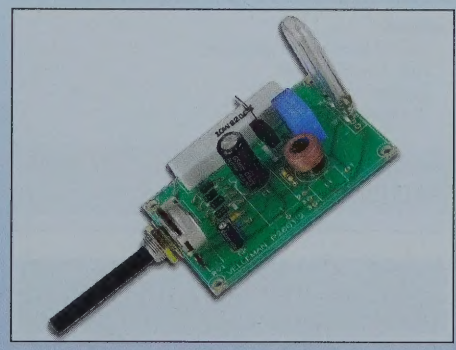
STROBOSCOPE K2601



Flashing light effects for discos. Make your own snapshots and "lightning" light effects. Flash frequency adjustable from 2 to 20Hz.

SPECIFICATIONS :
- power supply : 220V - 240 VAC
- PCB dimensions : 3.4" x 2.6"
- recommended housing : WCAH2853

STROBOSCOPE K5300

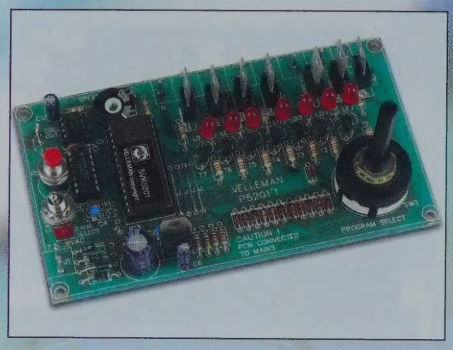


Flashing light effects for discos. Make your own snapshots and "lightning" light effects. Flash frequency adjustable from 2 to 20Hz.

SPECIFICATIONS :
- power supply : 110V - 120V AC
- PCB dimensions : 3.4" x 2.6"

A

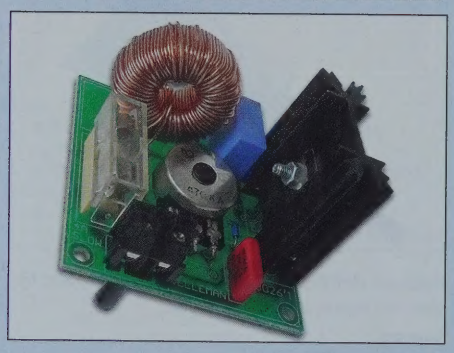
LIGHT COMPUTER ▸▸ K5201



Sixteen different programs and seven outputs make this light computer a unique showpiece. This kit can find applications in party lighting, discotheques, advertisement lighting, signaling, etc. To be able to view the programs directly, each output is provided with a LED. The complete circuit can be installed so that all operations and LEDs are available from the front panel. To enhance the spectacle further, an unlimited number of circuits can be connected together to work synchronously. Moreover, two programs are provided which are specially adapted to operate two light computers in cascade.

SPECIFICATIONS :
- 7 triac outputs : 1.5A max.
- supply voltage for the lights : 24VAC to 240VAC
- supply voltage of the circuit : 7.5 - 9VAC / 250mA
- 16 programs
- speed controllable
- input for external clock
- PCB dimensions : 5.3" x 3.1"
- recommended housing : WCAH2852
- recommended transformer : 1090030M
- recommended adapter : PS905USA

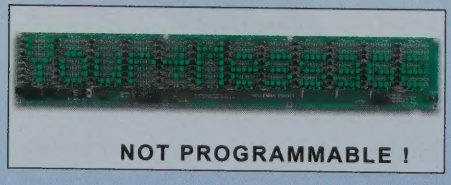
SUPPRESSED 3.5A DIMMER ▸▸ K8026



Due to its small size, this small dimmer easily replaces an existing switch, permitting you to vary the brightness of a light or group of lights. The dimmer may also be used to adjust the speed of a motor, vacuum cleaner, or any other motor with carbon brushes. A mains suppresser is provided eliminating undesirable RFI. It is not suitable for halogen lamps.

SPECIFICATIONS :
- protected against induction voltage peaks
- load : 3.5A (380W / 110V)
- suppressed according to EN55015
- PCB dimensions : 1.8" x 1.9"

ADVERTISEMENT LED DISPLAY WITH GREEN LEDS ▸▸ K5600G



Create your own message for personal advertisements. Can be used for home, shop, car or truck... 12 self definable characters, which are made by de customer. 150 bright LEDs supplied with the kit. Many spectacular light effects on the message, (scrolling, blinking, rolling, panning...). Adjustable effect speed. Vertical or horizontal position possible. Fixed displaying is possible (no effects). Different displays can be synchronized, to create longer messages, or to create giant advertisements. Special housing available : B5600.
Extra LEDs available : K/LEDHR (see p.46) (red) and K/LEDHG (see p.46) (green).

SPECIFICATIONS :
- 12 character positions
- 5 x 7 LED matrix for each character
- bright LEDs : 60 to 80mcd (max.)
- microprocessor technology
- oscillator output for synchronization with other display(s) (master / slave configuration)
- voltage supply : 12 to 28V DC
- reverse polarity protected
- consumption : 760mA
- dimensions : 3.2" x 18.6"
- recommended housing : B5600
- recommended adapter : PS1208USA

ADVERTISEMENT LED DISPLAY WITH RED LEDS ▸▸ K5600R

Create your own message for personal advertisements. Can be used for home, shop, car or truck... 12 self definable characters, which are made by de customer. 150 bright LEDs supplied with the kit. Many spectacular light effects on the message, (scrolling, blinking, rolling, panning...). Adjustable effect speed. Vertical or horizontal position possible. Fixed displaying is possible (no effects). Different displays can be synchronized, to create longer messages, or to create giant advertisements. Special housing available : B5600.
Extra LEDs available : K/LEDHR (see p.46) (red) and K/LEDHG (see p.46) (green).

SPECIFICATIONS :
- 12 character positions
- 5 x 7 LED matrix for each character
- bright LEDs : 60 to 80mcd (max.)
- microprocessor technology
- oscillator output for synchronization with other display(s) (master / slave configuration)
- voltage supply : 12 to 28V DC
- reverse polarity protected
- consumption : 760mA
- dimensions : 3.2" x 18.6"
- recommended housing : B5600
- recommended adapter : PS1208USA

PACK OF 50 GREEN LEDS ▸▸ K/LEDHG

For use with K5600G (see p.46) Advertisement LED display with red LEDs.

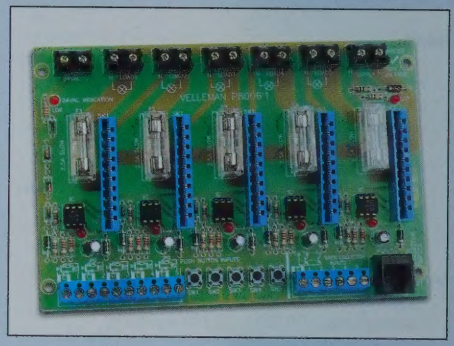
SPECIFICATIONS :
- luminous intensity : 60mcd max.
- 50pcs

PACK OF 50 RED LEDS ▸▸ K/LEDHR

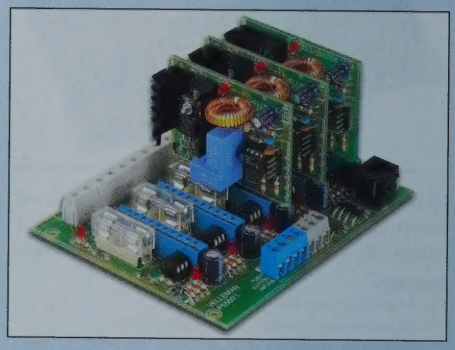
For use with K5600R (see p.46) Advertisement LED display with red LEDs.

SPECIFICATIONS :
- luminous intensity : 80mcd max.
- 50pcs

DOMOTICA LIGHT SYSTEM - BUSPRINT ▸▸ K8006

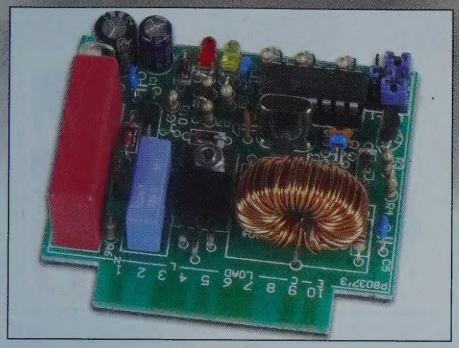


Create your own domestic modular light control system. For use with optional plug-in module K8007 () , plug-in timer module K8008 (see p.47) or plug-in slow-on/slow-off module K8029 (see p.47) . Bus system holds up to five plug-in units. Optically insulated push button inputs. Can be controlled with open collector circuits (ex. K8000RS (see p.43) computer interface card, with IR remote control receiver K8050 (see p.41) or with K8023 (see p.42)). Local control pushbuttons included. LED power and mains indicator. LED operation indicator for each channel. Low-voltage (24V AC) control circuit for extra safety. Each plug-in slot is fused. Includes 10 LEDs for pushbutton illumination.



SPECIFICATIONS :
- five separated channels
- maximum output : 2.5A per channel (fuse protected)
- push button control current : 150mA
- open collector control current : 35mA DC
- power supply : 24V AC / 300mA
- supply voltage for modules : 110V to 240V AC
- PCB dimensions : 4.2" x 6.3" x 2.8"

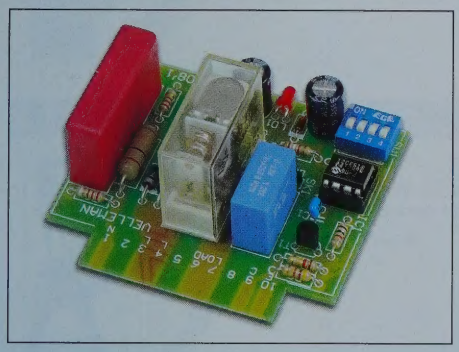
BUS DIMMER FOR HOME MODULAR LIGHT SYSTEM ▸▸ K8037



FEATURES :
- dimmer to be used in our K8006 (see p.46) home light system
- suitable for incandescent lamps, mains voltage halogen lighting and low voltage halogen lighting in combination with a conventional (wire wound) transformer
- easy pushbutton operation
- a brief push toggles on/off, while continued pushing engages dimming action
- non volatile memory for last set light intensity
- lots of safety features to make lamps last longer, such as "soft-start" and automatic deactivation after 12 hours or after 20 min at insufficient intensity ...
- transformer protection in case of defective light sources
- LED status indication
- replaces K8007

SPECIFICATIONS :
- suppression of radio & TV interference according to EN55015
- operating voltages : AC 110-125V or 220-240V (50/60Hz)
- max. load : 350W/230V or 170W/115V
- max. phase shift with inductive load : 30±
- dimming speed : ″ 5 sec.
- PCB dimensions : 2.6" x 2.3" x 1.0"

MULTIFUNCTION RELAY MODULE ▸▸ K8008

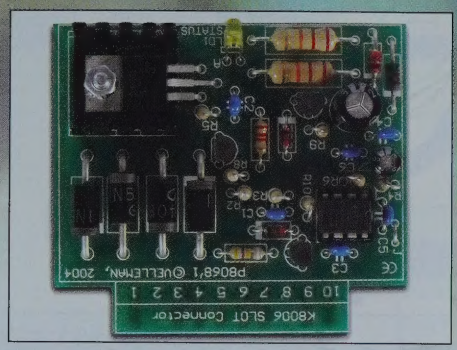


14 different functions including timers, switching, flashing, interval, random switching, ... Two pre-programmed delays. Learning mode for delays of 2 sec. up to 12 days. Pushbutton control (with home modular light system K8006 (see p.46)). EEPROM for delay time storage in case of power failure. On-board transient filter for relay contacts or load (selectable). Suitable for control of incandescent lighting, halogen lighting, fluorescent lighting, fans, valves, buzzers, ...

FEATURES :
- also available as stand-alone version : K8015 (see p.17)

SPECIFICATIONS :
- operational voltages : 110-125 or 220-240V AC 50/60Hz
- max. load : 2.5A (275W / 110V)
- PCB dimensions : 2.6" x 2.2" x 1.0"

DIMMER FOR ELECTRONIC TRANSFORMERS ▸▸ K8068

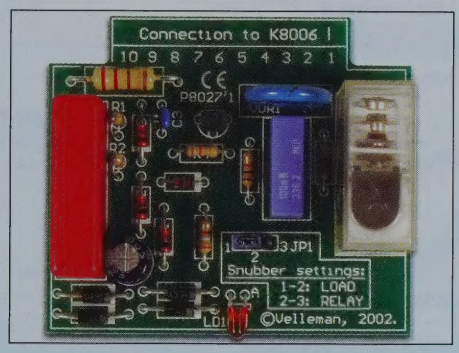


For use with K8006 (see p.46) bus system.

FEATURES :
- 'PLUG-IN' module for use with our home modular light system K8006 (see p.46)
- suitable for incandescent lamps, mains voltage halogen lighting and low voltage halogen lighting in combination with an electronic transformer (Velleman transformer types: HET60(60W), HET105 (105W), HET150 (150W))
- inductor- and filter free, phase control technology with coolMOS"! FET-transistor
- a brief push toggles on/off, while continued pushing engages dimming action
- 'soft-start' feature to make lamps last as long as possible
- non volatile memory for last set light intensity
- reduced harmonic distortion (less EMI), according to EN55015
- LED status and error indication

SPECIFICATIONS :
- operating voltages : 110-125V or 220-240V AC (50/60Hz)
- max. load : 300W/230V or 150W/115V, 0-98% adjustable
- dimming cycle speed : +/- 5 sec
- PCB dimensions : 2.5" x 2.2" x 0.8"

RELAY OUTPUT MODULE FOR K8006RS ▸▸ K8027

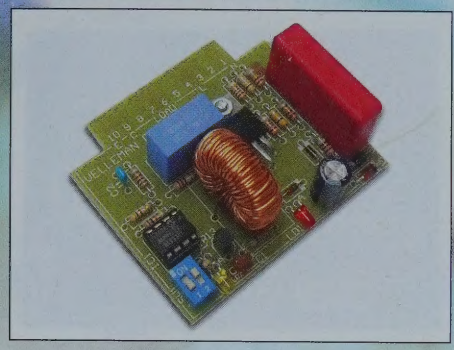


This switching module can be plugged into our K8006 (see p.46) base unit. Can be used to switch lamps or other domestic loads. To be controlled via push buttons, switches or one of our control modules or kits such as the K8046 (see p.42) touch screen keyboard, the K6000RS (see p.17) microprocessor controller/timer, the K8000RS (see p.43) PC interface, etc...

FEATURES :
- for use with K8006 (see p.46) Base unit for home modular light system
- suited for both resistive and inductive loads
- can be operated from an external push button & open collector through : ex. K6711 () - K8023 (see p.42) - K8000RS (see p.43) - K8046 (see p.42)

SPECIFICATIONS :
- operating voltage : 110 to 240V AC (50/60Hz)
- max. load : 2.5A (275W/110V - 575W/230V)
- dimensions : 2.6" x 2.2" x 1.0"

SLOW ON-OFF DIMMER ▸▸ K8029



Microprocessor controlled. Dual mode operation :
* Slow on / Slow off dimmer with two independent and programmable delays. Dimming direction changes with each key press. Manual level control is possible. This mode also simulates a 'regular' dimmer.
* Light is turned on at full power for a programmable time, after which it slowly fades to zero, also during a programmable time.

SPECIFICATIONS :
- for use with the Velleman home modular light system K8006 (see p.46)
- two programmable delays ranging from 1s to 1h
- no memory loss in case of power failure
- 'soft-start' function that prolong the life of the bulbs
- AC power : 110-125 or 220-240V AC 50/60Hz
- max. load : 2A (200W/110V)
- dimensions : 2.7" x 2.3" x 1.4"
- not suited for use with low voltage halogen lighting or electronic transformers

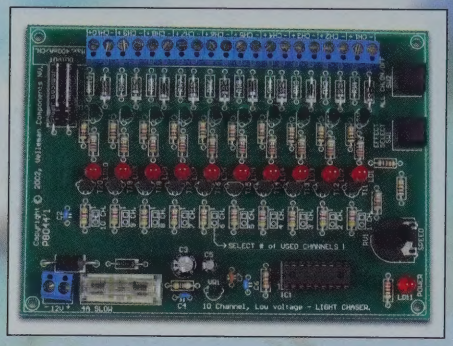
3-CHANNEL SOUND LIGHT WITH MICROPHONE ▸▸ K8017

Low, mid and high channels. Sensitivity adjustment per channel. LED indication per channel. Attractive transparent enclosure. Microphone included. Noise suppressed according to EN55015.

SPECIFICATIONS :
- operating voltages : 110-125 or 220-240V AC (50/60Hz)
- max. load : 200W per channel (100W @ 110-125V AC)
- only suited for incandescent light bulbs
- dimensions : 6.1" x 1.8" x 6.3"

A

10-CHANNEL LIGHT EFFECT GENERATOR ▸▸ K8044



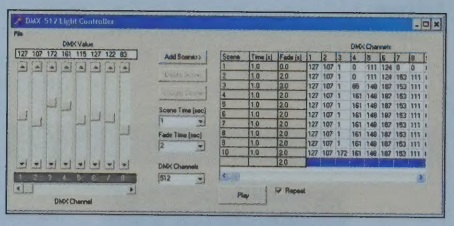
FEATURES :

- this kit has 10, 12V/400mA outputs to control cold-cathode fluorescent lamps, light bulbs, LED's and "solid state" relays, ...
- for use as advertisement lighting, party lights, discos, eye-catcher, ...
- 10 pre-programmed selectable light patterns with a push button
- number of used channels is adjustable
- adjustable speed
- LED indication for every output
- 12V operation possible for use in cars
- options :
  - adapter (90 - 260V AC input to 12V DC output/ 5.8A) : PSS1255

SPECIFICATIONS :

- power supply : 12V DC
- consumption : max. 4A
- outputs : 12V DC / 400mA per channel (total : max 4A)
- dimensions : 5.5" x 3.9" x 1.1"

USB CONTROLLED DMX INTERFACE ▸▸ K8062



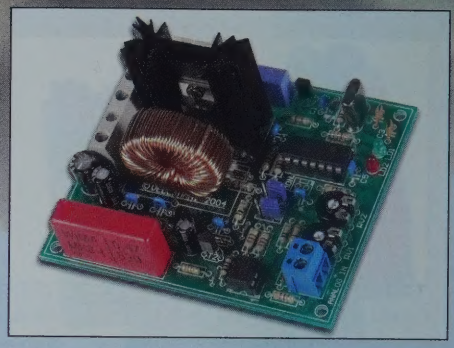
FEATURES :

- this unit can control DMX fixtures using a PC and USB interface
- test software and "DMX Light Player" software is included, a DLL is provided to write your own software
- furthermore there is a stand-alone test function that outputs all 512 channels at a time, with adjustable levels
- kit includes :
  - nice enclosure
  - USB cable
  - CD with : test software, DLL for own developments, free DMX light player

SPECIFICATIONS :

- connected and powered through USB
- 512 DMX channels with 256 levels each
- 3 pin XLR-DMX output connector
- Windows 98SE or higher compatible
- DLL included to write your own software
- optional 9V battery needed for stand alone test mode
- solid state - fuse protection on DMX output
- dimensions : 4.2" x 4.0" x 1.75"

DC CONTROLLED DIMMER ▸▸ K8064



FEATURES :

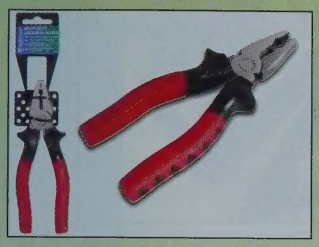
- simple brightness adjustment by means of a DC voltage
- optically isolated adjustment input
- pre-set adjustment for full brightness
- suitable for incandescent lamps, mains voltage halogen lighting and low voltage halogen lighting in combination with a conventional transformer
- "Soft start" feature to ensure lamp longevity
- transformer protection in case of defective light sources
- LED status indication
- compatible with our computer interface cards : K8000, K8055 (see p.44)

SPECIFICATIONS :

- adjustment voltage of : 0 to 12Vdc max.
- max. adjustment current : 2.25mA at adjustment voltage of 12V
- suppression of radio & TV interference according to EN55015
- operating voltage : 110-125V or 230-240V AC (50/60Hz)
- max. load : 750W/230V or 375W/110V, adjustable from 0-98%
- max. phase shift with inductive load : 30±
- PCB dimensions : 3.5" x 3.0" x 1.6"

PLIERS AND CUTTERS

HEAVY-DUTY UNIVERSAL PLIERS — VT04

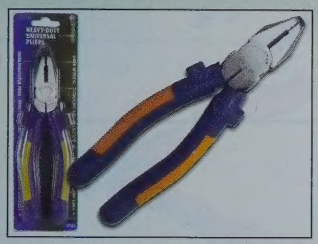


Specifications :
- size : 6.0"

HEAVY-DUTY LONG NOSE PLIERS — VT05

Specifications :
- size : 6.0"

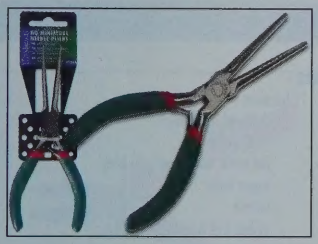
UNIVERSAL PLIERS - HEAVY-DUTY — VT03



HQ heavy-duty

Specifications :
- size : 7.5"

HQ MINIATURE NEEDLE PLIERS — VT046



Features :
- carbon steel, hardened
- black oxide finish

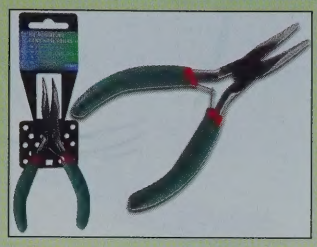
Specifications :
- size : 4.5"

HQ MINIATURE FLAT NOSE PLIERS — VT054

Features :
- carbon steel, hardened
- black oxide finish

Specifications :
- size : 4.9"

HQ MINIATURE BENT NOSE PLIERS — VT055



Features :
- carbon steel, hardened
- black oxide finish

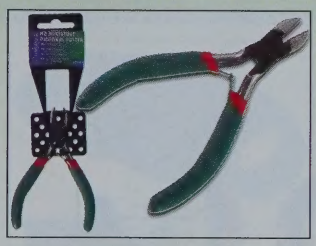
Specifications :
- size : 4.9"

HQ MINIATURE LONG NOSE PLIERS — VT056

Features :
- carbon steel, hardened
- black oxide finish

Specifications :
- size : 4.5"

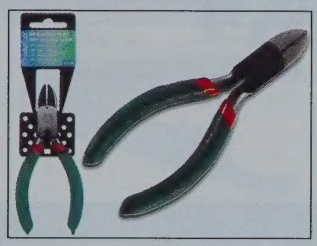
HQ MINIATURE DIAGONAL CUTTER — VT057



Features :
- carbon steel, hardened
- black oxide finish

Specifications :
- size : 4.3"

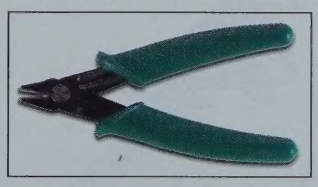
MINIATURE DIAGONAL CUTTER HEAVY DUTY — VT106



Features :
- carbon steel, hardened
- black oxide finish

Specifications :
- size : 4.9"

MICRO CUTTING NIPPERS — VT100



For precision work.

Specifications :
- size : 5.1"

5" ELECTRICAL CUTTER & STRIPPER — VT109

Strips wires from 20-24 AWG and cuts wires with a max. Ø of 0.05".

Specifications :
- size : 4.7"

B

UNIVERSAL CUTTER - HEAVY-DUTY ▸▸ VT09

HQ heavy-duty

SPECIFICATIONS :
- size : 6.5"

HEAVY-DUTY UNIVERSAL CUTTER ▸▸ VT06

SPECIFICATIONS :
- size : 6.0"

HEAVY-DUTY TOOL SET - 3 PCS ▸▸ VT33

FEATURES :
- universal pliers, heavy-duty cutter, long nose pliers
- supplied in blister

CABLE CUTTER ▸▸ VTCC

Curved blade cuts wires up to Ø0.4".

SPECIFICATIONS :
- size : 6.5"

COMPACT MULTI-PURPOSE PLIERS - LOW-COST ▸▸ VTMPPLC

Multi-purpose pliers : pliers, cutter, screwdriver, saw, etc.

FEATURES :
- comes with carrying bag

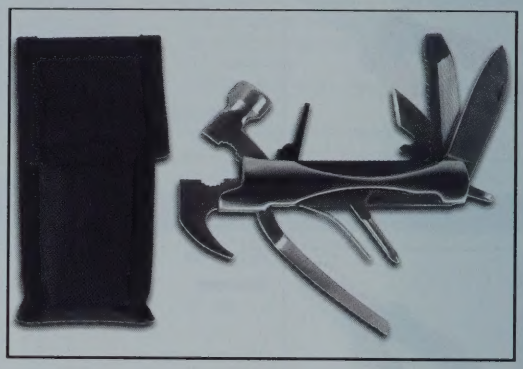
SPECIFICATIONS :
- length : 3.9" (closed)
- weight : 5.7oz.

COMPACT MULTIPURPOSE PLIERS - 28 IN 1 ▸▸ VTMPP3

Universal pliers, awl, knife, saw, bottle opener, scissors, 12 bits, etc. Made of stainless steel.

FEATURES :
- comes with belt bag

COMPACT MULTI-PURPOSE PLIERS 12 in 1 ▸▸ VTMPP5



FEATURES :
- needlenose pliers
- wire cutter
- hammer
- serrated blade
- can opener
- philips screwdriver
- pliers
- nail file
- file
- screwdriver
- knife
- mini screwdriver

MINI COMPACT MULTIPURPOSE PLIERS WITH HANGER ▸▸ VTMPP4

FEATURES :
- 12 functions :
  - flat head screwdriver
  - small knife
  - flat metal tool for nail polishing
  - bigger knife
  - opener
  - philips and flat head screwdrivers
  - scissors
  - keychain
  - flat contact screwdriver
  - tool for turning the nut
  - tool for working with cable
- length : 2.6" (closed)

TOOL SET / 5PCS DIFFERENT PLIERS ▸▸ VTSET

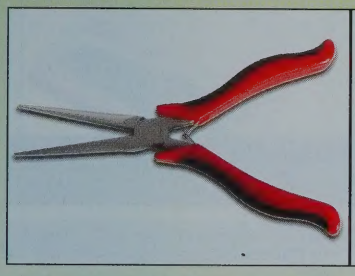
Stainless-steel precision pliers set (5 pcs) : diagonal cutter, top cutter, bent nose pliers, flat nose pliers, long nose pliers.

FEATURES :
- supplied in blister

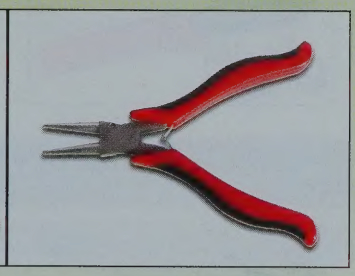
HQ PLIERS AND CUTTERS

SPECIFICATIONS :
- made of CR-V steel with nickel satin finish
- handles of double injected plastic

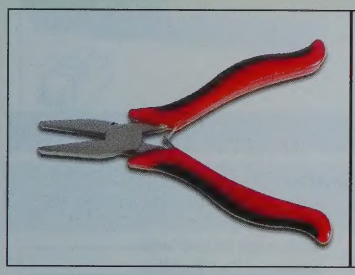
part name	type	length
VT246	needle pliers	5.9"
VT252	round nose pliers	4.9"
VT254	flat nose pliers	4.7"
VT255	bent nose pliers	4.8"
VT256	long nose pliers	4.8"
VT257	diagonal cutter	4.3"
VT258	flat nose pliers with cutter	4.6"
VT259	top cutter	3.9"



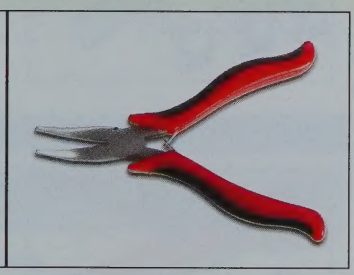
part name VT246



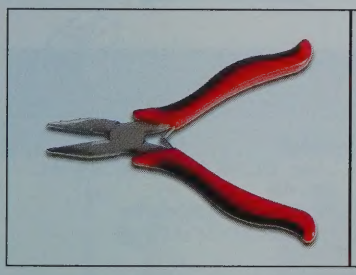
part name VT252



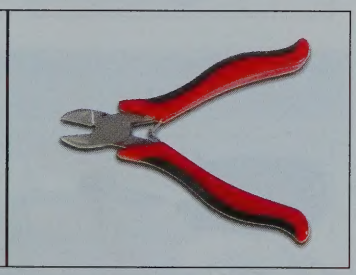
part name VT254



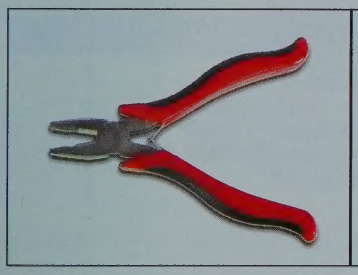
part name VT255



part name VT256



part name VT257



part name VT258

part name VT259

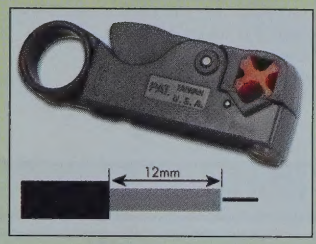
STRIPPERS AND CUTTERS

UNIVERSAL STRIPPER ▸▸ VT5021

Wire stripper, cutter, steel wire cutter, pliers (AWG 10,12, 14, 16, 18, 20, 22).

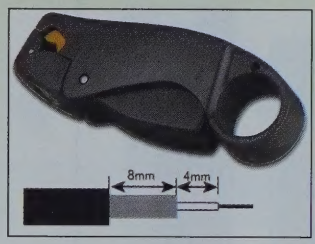
SPECIFICATIONS :
- size : 7.4"

STRIPPER FOR COAX CABLE ▸▸ VTCOAX



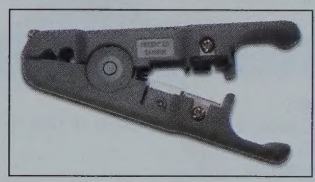
Rotary coax cable stripper, no replacement cassettes needed for stripping RG58/59/62/6/3C2V,... Stripping "D" : 0.16"/ 0.24"/0.31"/0.47". In front of the V-block, the mark 6=RG6, 8=RG58 and 3C2V, 9=RG59 / R662

COAX STRIPPER - 3 BLADES ▸▸ VTCOAX3



Coax cable stripper with 3 adjustable knives. Strips RG-58 / 59 / 62 cables. Also removes the outer insulation.

COAX CABLE STRIPPER/CUTTER ▸▸ VTCOAXF



For round cables, stranded wire, UTP, multiconductor cable & irregularly shaped cable.

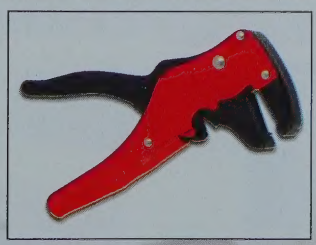
SPECIFICATIONS :
- set of spare cutters (6pcs) : -

SELF-ADJUSTING STRIPPER/CUTTER ▸▸ VTSTRIP

Deluxe wire cutter/stripper tool. A quick and very user-friendly tool, providing improved efficiency and safety.

SPECIFICATIONS :
- maximum strip length : 1.0"
- strips wires from 0.01" sq. to 0.24" sq.

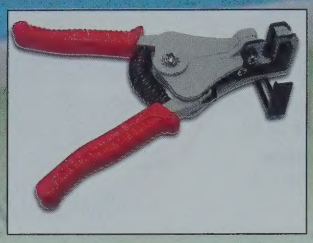
LOW-COST ADJUSTING STRIPPER/CUTTER ▸▸ VTSTRIPL



SPECIFICATIONS :
- maximum strip length : 1.0"
- strips wires from 0.01" sq. to 0.24" sq.

B

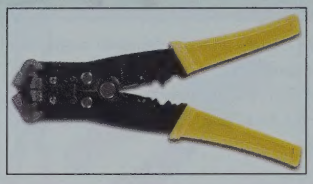
AUTOMATICALLY ADJUSTING WIRE CUTTER/STRIPPER — VTSTRIP2



Strips 8-18 AWG.

SPECIFICATIONS :
- strips wires : Ø 0.04"/0.06"/0.08"/0.10"/0.12" (AWG 18/14/12/10/8)

HEAVY-DUTY WIRE STRIPPER/CUTTER — VTSTRIP4

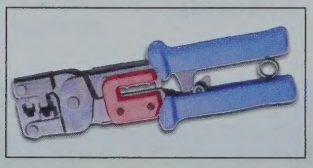


FEATURES :
- cuts and strips 10-24 AWG copper wire, full or multicore
- crimps 10-22 AWG insulated terminals
- crimps 4-22 AWG non-insulated terminals
- crimps 0.275"-0.315" ignition terminals

CRIMPING TOOLS

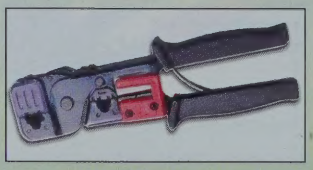
CRIMPING TOOLS FOR MODULAR JACKS

RATCHET CRIMP/CUT/STRIP TOOL — VT070



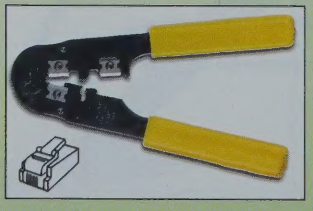
FEATURES :
- 2 positions for : 8P8C (RJ-45), 6P6C (RJ-12) & 6P4C (RJ-11)
- ratchet type

NON-RATCHET CRIMP/CUT/STRIP TOOL — VT071



FEATURES :
- 2 positions for : 8P8C (RJ-45), 6P6C (RJ-12) & 6P4C(RJ-11)
- non-ratchet type

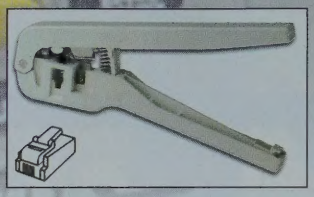
CRIMPING TOOL FOR CONNECTOR 4P4C, 4P2C (RJ11) — VTM4



FEATURES :
- for RJ11 modular connectors

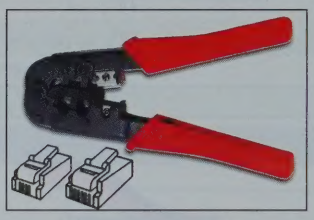
SPECIFICATIONS :
- set of spare cutters (6pcs) : -

CRIMPING TOOL FOR CONNECTOR 4P4C (RJ11) — VTM4L



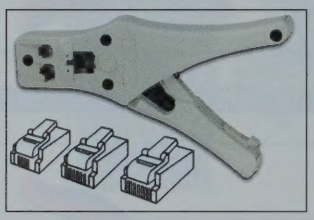
FEATURES :
- for RJ11 modular connectors
- US-type crimping tool
- ABS

CRIMPING TOOL FOR CONNECTOR 6P6C, 6P4C, 6P2C, 4P4C, 4P2C (RJ11, RJ12) — VTM4/6



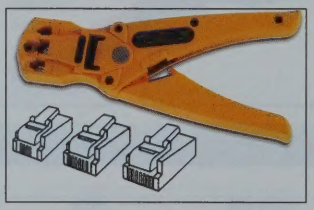
FEATURES :
- for RJ11, RJ12 modular connectors

CRIMPING TOOL FOR CONNECTOR 4P4C, 6P4C, 8P8C (RJ10, RJ11, RJ45) — VTM468L



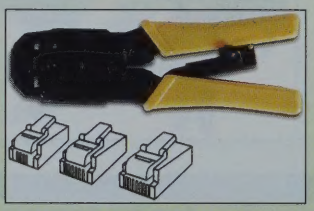
FEATURES :
- for RJ10, RJ11, RJ45 modular connectors (4P4C, 6P4C, 8P8C)
- US-type crimping tool
- ABS

MODULAR CONNECTOR CRIMPING TOOL — VTM468



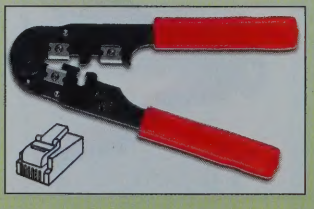
SPECIFICATIONS :
- crimps : 8P2C, 8P4C, 8P6C, 8P8C, 6P2C, 6P4C, 6P6C, 4P2C, 4P4C
- includes stripper and cutter function
- dimensions : 7.9" x 2.4" x 1.0"
- weight : 6.3oz

PROFESSIONAL CRIMPING TOOL FOR MODULAR CONNECTORS 4P4C, 6P4C, 8P6C (RJ11, RJ12, RJ45) — VTM468P



SPECIFICATIONS :
- crimps : 8P2C, 8P4C, 8P6C, 8P8C, 6P2C, 6P4C, 6P6C, 4P2C, 4P4C
- can also be used as a stripper or cutter
- dimensions : 8.1" x 2.6" x 0.8"

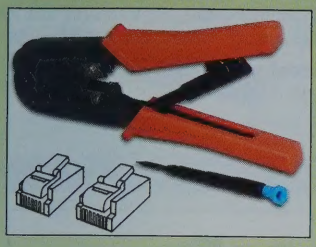
CRIMPING TOOL FOR CONNECTOR 6P6C, 6P4C, 6P2C (RJ12) — VTM6



FEATURES :
- for RJ12 modular connectors

SPECIFICATIONS :
- set of spare cutters (6pcs) : -

CRIMPING TOOL FOR CONNECTOR 6P6C, 6P4C, 8P8C (RJ12, RJ45) — VTM6/8



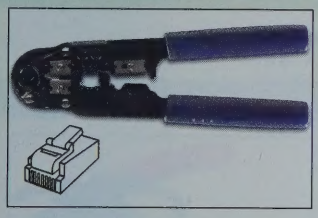
FEATURES :
- for RJ12, RJ45 modular connectors

CRIMPING TOOL KIT FOR CONNECTOR 6P6C, 6P4C (RJ12) (50 pcs) — VTM6S

3-way tool : cutting, stripping, crimping

FEATURES :
- comes in plastic box with 50 pcs of RJ12 plugs
- for RJ12 modular connectors
- steel frame with black oxide finish

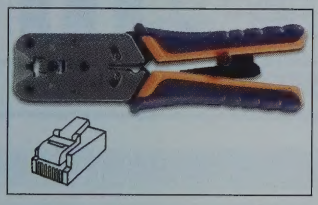
CRIMPING TOOL FOR CONNECTOR 8P8C (RJ45) — VTM8



FEATURES :
- for RJ45 modular connectors

SPECIFICATIONS :
- set of spare cutters (6pcs) : -

PROFESSIONAL CRIMPING TOOL FOR MODULAR 8-CONTACT PHONE PLUGS (8P8C/RJ45) — VTM8P



FEATURES :
- for modular RJ45 connectors
- cuts, strips and crimps
- grip in double injected plastic
- frame in nickel-plated CR-V steel

CRIMPING TOOL-KIT FOR 4PC, 6PC, 8PC (RJ11, RJ12, RJ45) — VTMUS

For crimping 8P8C (RJ-45), 6P4C-6P6C (RJ-12), 6P6CDEC, 4P4C (RJ-11) connectors. 3-way tool : cutting, stripping, crimping connectors.

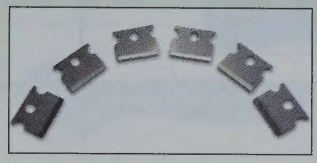
FEATURES :
- steel frame with black oxide finish
- comes in case and with 20 x 8P8C (RJ-45) and 30 x 6P6C (RJ-11) plugs

SPECIFICATIONS :
- set of spare cutters (6pcs) : -

CRIMPING TOOL KIT FOR NETWORK CABLES — VTMUS2

FEATURES :
- includes :
  - telecom impact tool
  - crimping tool for connectors 6PC, 8PC (RJ12, RJ45)
  - coax cable stripper/cutter
  - coax cable stripper
  - 45 modular plugs : 15 x 6P4C, 15 x 6P6C, 15 x 8P8C

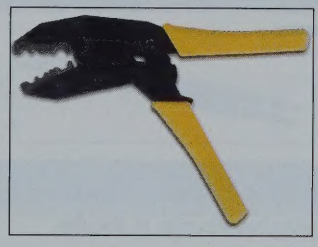
SET OF SPARE CUTTERS FOR VTMUS, VTM4, VTM6 OR VTM8 (6pcs) — VT/SP2



SPECIFICATIONS :
- 6pcs
- for VTMUS (see p.53) , VTM4 (see p.52) , VTM6 (see p.52) or VTM8 (see p.53)

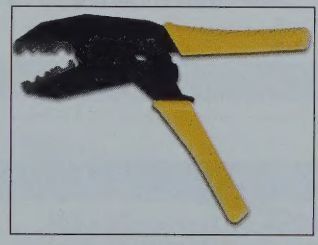
CRIMPING TOOLS

RATCHET CRIMPING TOOL FOR NON-INSULATED TERMINALS — VTBNCU1



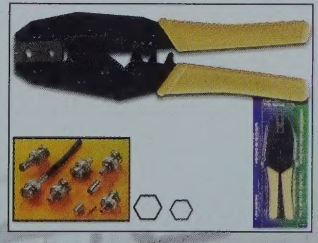
SPECIFICATIONS :
- size : 256" .319" .068" .213"
- description : RG 58, 59 ,62, 6

RATCHET CRIMPING TOOL FOR NON-INSULATED TERMINALS — VTBNCU2



SPECIFICATIONS :
- size : 068" .262" .324" .360
- description : CATV "F" connectors RG 59, 6

COAX CRIMPING TOOL RATCHET TYPE — VTBNC

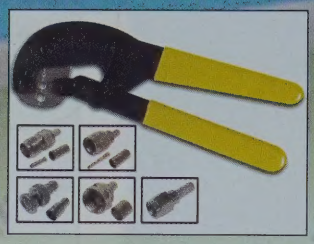


For crimping BNC/TNC/N/F.

SPECIFICATIONS :
- RG cable : 59, 62, 140, 210, BELDEN 8279, 55, 58, 141, 142, 223, 303, 400, FIBREOPTIC
- size : 8.7"

B

CRIMPING TOOL FOR F & BNC CONNECTORS — VTFBNC



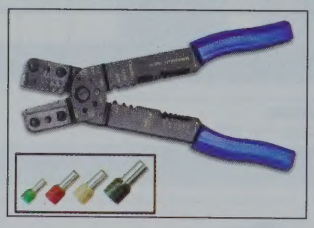
Specifications :
- for crimping cables : BNC, TNC, UHF, SMA - 59, 62, 140, 210, 55, 58, BELDEN : 8279, 141, 142, 223, 303, 400
- size : 9.0"

COAX TOOL SET, CRIMPING, CUTTING & STRIPPING TOOL — VTBNCS

61.50

Includes : 1 crimping tool with set of 5 dies to crimp all types of coaxial connectors, 1 cable cutter (Ø up to 0.41"), 1 coax stripper, 1 mounting screwdriver. **Comes with blowmolded case.**

CRIMPING TOOL FOR CORD-END CONNECTOR — VTECT

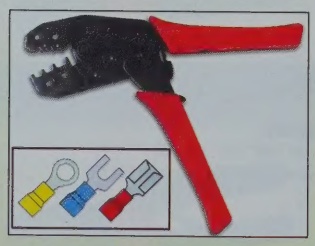


Easy crimping for cord-end connectors from 0.02" sq. to 0.24" sq. Wire cutter and stripper.

Features :
- for "cord end" connectors : for "cord end" connectors

Specifications :
- size : 9.6"

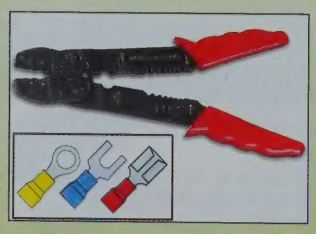
HEAVY-DUTY CRIMPING TOOL FOR FAST-ON — VTHCT



For crimping insulated terminals : red, blue, yellow.

Specifications :
- crimping wire size :
  - AWG : 22-18, 16-14, 12-10
  - inches : 0.02-0.04"sq., 0.06-0.10" sq., 0.16-0.24" sq.
- size : 8.7"

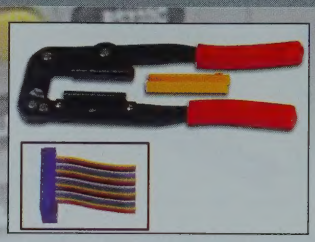
LOW-COST CRIMPING TOOL 8" FOR FAST-ON — VTCT



4-way crimping tool : crimper terminal (for insulated terminals), screw cutter (for M2-M5), wire cutter and wire stripper.

Specifications :
- size : 8.1"

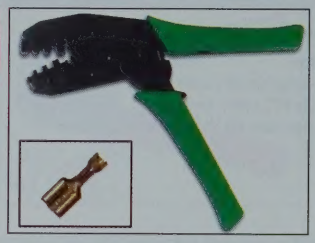
IDC CRIMPING TOOL — VTIDC



Steel frame. This tool makes it easy to connect flat cables with IDC-type connectors. Crimps connectors from 0.24" to 1.08".

Specifications :
- size : 9.6"

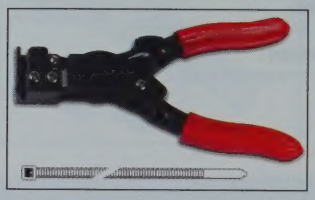
RATCHET CRIMPING TOOL FOR NON-INSULATED TERMINALS — VTNCT



Specifications :
- wire size : AWG 10-12, 14-16, 18-20
- size : 8.7"

SPECIAL TOOLS

CABLE TYING TOOL — VTCTT

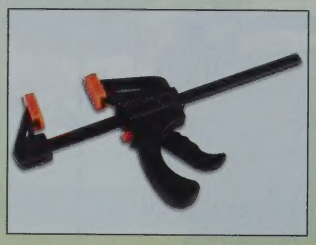


Specifications :
- Ø : up to 0.09"
- size : 6.3"
- with cutter knife

5" GRIPPING TOOL — VTGT

Specifications :
- length : 127mm
- max. jaw opening : 30mm
- comes in "fish bowl" : 30pcs

4" QUICK RATCHETING BAR CLAMP AND SPREADER — VTGT20

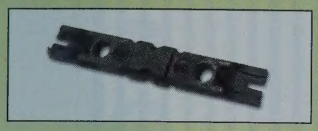


Features :
- 4", 100mm jaw opening
- easy to use
- nylon fibre filled jaws
- robust and light

2.35" GRIPPING TOOL - 8 pcs — VTGT8

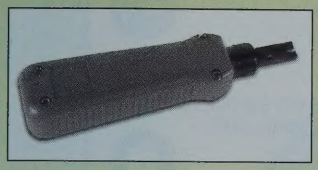
Specifications :
- length : 2.4"
- max. jaw opening : 1.5"
- packaging : cardboard with 8 pcs

SPARE BLADE FOR VTPD — VTPD/SB



SPECIFICATIONS :
- 110/88 blade included
- for VTPD & VTPD2

TELECOM TOOL — VTPD2



FEATURES :
- for seating wire into terminal blocks or cutting off wire ends
- economic type

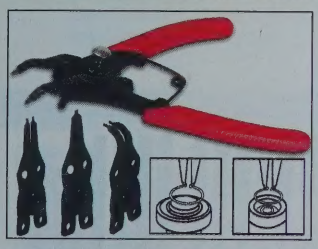
SPECIFICATIONS :
- length : 4.5"
- spare blade for VTPD2 : VTPD/SB (see p.55)

TELECOM IMPACT TOOL — VTPD4

FEATURES :
- 'hi-lo' selector determines the cutting power of the blade and the pressure this blade exerts on the cable
- built-in combination hook/spludger for wire handling
- comfortable handle
- easy blade replacement
- with safe storage space for one spare blade
- interchangeable and reversible blades
- spare blade : VTPD4/SB

SPECIFICATIONS :
- blade : 110/88 type
- length : 6.6"

COMBINATION SNAP RING PLIERS — VTSRP



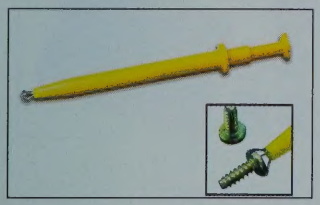
SPECIFICATIONS :
- effective range : 0.39"-1.97"
- comes with convertible tips of 180±, 90± and 45±
- jaws can be interchanged for 6 different purposes (internal / external)
- dimensions : 5.5"
- supplied in blister

EXTRACTORS

LOW-COST IC EXTRACTION TOOL — VTIC

SPECIFICATIONS :
- size : 4.1"

WIRE PRONG HOLDER — VTP



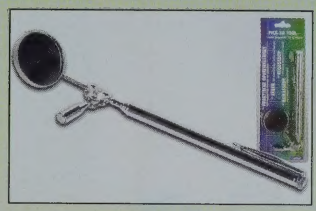
Easily picks up small bits and pieces.

SPECIFICATIONS :
- pencil model with hook clip
- size : 4.5"

PLCC EXTRACTOR — VTPLCC

SPECIFICATIONS :
- suitable for 18-pin to 124-pin PLCC IC's
- weight : 1oz

PICK-UP TOOL — VTPMT

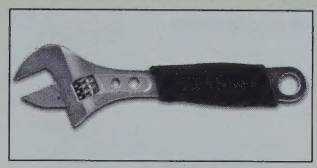


With magnetic tip & mirror.

SPECIFICATIONS :
- length : 18" max. (telescopic)
- Ø mirror : 1.2"

WRENCHES

ADJUSTABLE WRENCH 6" — VTW6A



FEATURES :
- with PVC coated handle

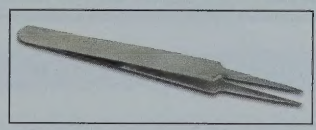
SPECIFICATIONS :
- size : 6"
- max. jaw opening : 25mm

TWEEZERS

SMOOTH NOSE TWEEZERS — VTTW1

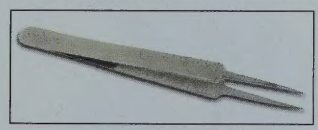
SPECIFICATIONS :
- anti-magnetic stainless steel
- length : 5.3"

FLAT NOSE TWEEZERS — VTTW2



SPECIFICATIONS :
- anti-magnetic stainless steel
- length : 5.3"

SHARP NOSE TWEEZERS — VTTW3



SPECIFICATIONS :
- anti-magnetic stainless steel
- length : 5.3"

BENT NOSE TWEEZERS — VTTW4

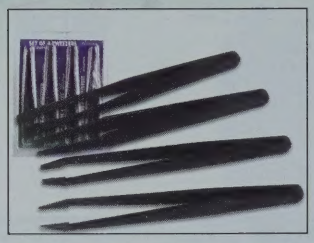
SPECIFICATIONS :
- anti-magnetic stainless steel
- length : 5.3"

B

SET OF 4 TWEEZERS — VTTWSET

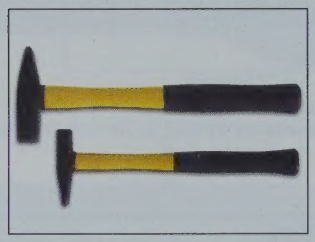
Specifications :
- 1 bent nose, 1 flat spade, 1 self-closing and 1 normal
- anti-magnetic stainless steel

SET OF 4 TWEEZERS - NON-CONDUCTIVE — VTTWSET2



Specifications :
- non-conductive

HAMMERS



Features :
- TÜV/GS
- with plastic-coated handle

SMALL HAMMER — VTHAM1

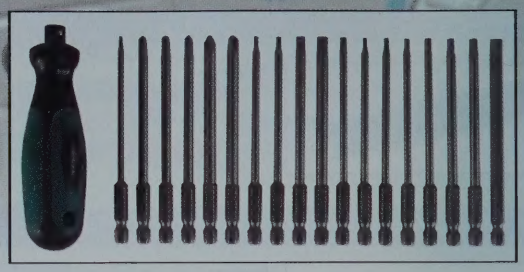
Specifications :
- weight : 100g

HAMMER — VTHAM2

Specifications :
- weight : 300g

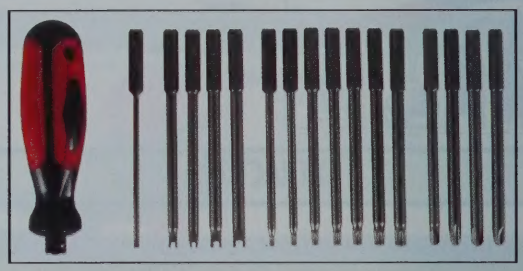
TOOL SETS

19-PC SECURITY SCREWDRIVER SET — VTBT7



Specifications :
- contents :
  - 1 quality handle
  - 6 inch socket : 5/64"x105, 3/32"x105, 7/64"x105, 1/8"x105, 9/64"x105, 5/32"x105
  - 6 metric socket : 2.0x105, 2.5x105, 3.0x105, 4.0x105, 5.0x105, 6.0x105
  - 4 tri-wing : #1x105, #2x105, #3x105, #4x105
  - 1 philips : PH2x105
  - 1 flat : 2.0x105

17-PC SECURITY SCREWDRIVER SET — VTBT8



Specifications :
- contents :
  - 1 quality handle
  - 7 'star' : T8x105, T10x105, T15x105, T20x105, T25x105, T27x105, T30x105
  - 3 four-wing : 6x105, 8x105, 10x105
  - 4 U-shape : 4x105, 6x105, 8x105, 10x105
  - 1 philips : PH0x105
  - 1 flat : 3.0x105

57-BITS SCREWDRIVER SET

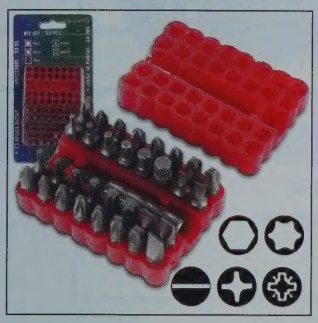
VTTS7

FEATURES :
- ideal for DIY household repairs & projects

SPECIFICATIONS :
- contents :
  - cross bits : PH0, PH1, PH2, PH3
  - pozzi bits : PZ0, PZ1, PZ2, PZ3
  - fractional flat bits : 1/8, 5/32, 3/16, 1/4, 9/32
  - metric hex bits : H2, H2.5, H3, H4, H5, H5.5, H6
  - fractional hex bits : H1/16, H5/64, H3/32, H1/8, H5/32, H3/16, H1/4
  - square bits : S0, S1, S2, S3
  - 'star' bits : T10, T15, T20, T25, T27, T30, T40
  - metric flat bits : 2 x 3, 2 x 4, 2 x 5, 2 x 6, 2 x 7mm
  - sockets : 3/16, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 15/32, 1/2 + adapter
  - holder for bits on both sides, 1 x hooked

BIT SET / 33 PCS

VTBT6



SPECIFICATIONS :
- contents :
  - hex : #2, 2.5, 3, 4, 5, 6
  - 'star' : # T10, T15, T20, T25, T30, T40
  - flat : 3, 4, 5, 6, 7
  - philips : 1 PH0, 2 PH1, 3 PH2, 2 PH3
  - pozzi : 2 PZ1, 3 PZ2, 2 PZ3
  - magnetic bit holder : 1/4" hex

SECURITY BIT SET / 33 PCS

VTBT5

SPECIFICATIONS :
- contents :
  - 'star' : #T8, T10, T15, T20, T25, T27, T30, T35, T40
  - hex : #5/64", 3/32", 7/64", 1/8", 9/64", 5/32"
  - hex : #2, 2.5, 3, 4, 5, 6
  - tri-wing : #1, 2, 3, 4
  - fork : #4, 6, 8, 10
  - four-wing : #6, 8, 10
  - magnetic bit holder : 1/4" hex

100-PC SCREWDRIVER BIT SET

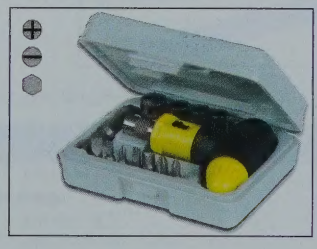
VTBT11

FEATURES :
- chrome vanadium
- satin finish
- indispensable when working on : cars, machinery, household appliances, electric & electronic devices

SPECIFICATIONS :
- contents :
  - philips bits : PH.0, PH.1, PH.2 (5x), PH.3
  - pozzi bits : PZ.0, PZ.1, PZ.2 (5x), PZ.3
  - square bits : S0, S1, S2, S3
  - flat bits : 3, 4, 4.5, 5, 5.5, 6, 6.5, 7, 8mm
  - antenna remover bits : 4, 6, 8, 10
  - 'star' bits : T8, T10, T15, T20, T25, T27, T30, T40, T45
  - tri-wing bits : 6, 8, 10
  - 'star' with centre bits : T8, T10, T15, T20, T25, T27, T30, T35, T40
  - four-wing bits : 1, 2, 3, 4
  - metric hex bits : 1.5, 2, 2.5, 3, 4, 5, 5.5, 6, 8mm
  - clutch bits : 1, 2, 3
  - fractional hex bits : 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4
  - dodecagonal 'star' bits : M5, M6, M8
  - metric hex with centre bits : 2, 2.5, 3, 4, 5, 6mm
  - fractional hex with centre bits : 5/32, 9/64, 1/8, 7/64, 3/32, 5/64
  - 1 wing nut driver
  - 4 extension bits :
    - socket bit holder : 1 pc
    - magnetic bit holder : 1 pc
    - 1/4" sq. x 1/4" x 2" extension : 1 pc
    - 1/4" sq. x 1/4" x 1" extension : 1 pc

HAND-HELD RATCHET TOOL

VTBT2



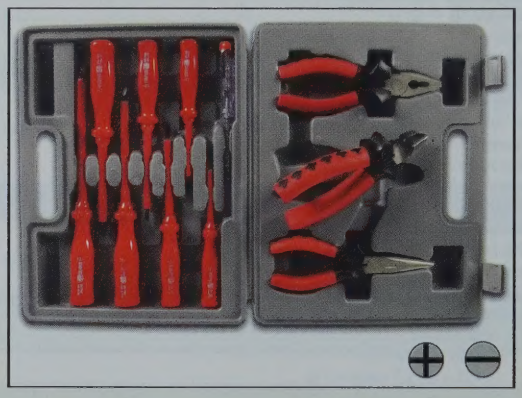
SPECIFICATIONS :
- contains :
  - ratchet screwdriver
  - 10 bits : 3 philips, 3 flat, 4 hex socket and 2 bit extensions

B

25-PC TOOLSET ▸▸ VTTS

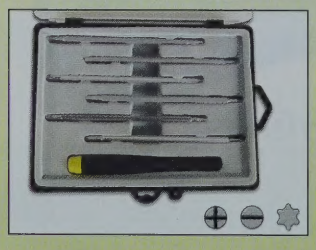
Specifications :
- contains :
  - 4.5" long nose pliers
  - 4.5" side cutter
  - stainless-steel tweezers
  - 1.4" sockets : 7, 8, 9, 10
  - magnetic screwdriver : 1.0"
  - 10 bits : flat 0.12", 0.20", 0.28", philips #1, #2, #3 (0.98") ; 'star' #T10, #T20, #T30
  - 6 precision screwdrivers : flat and philips
- dimensions carrying case : 6.1" x 3.9" x 1.9"

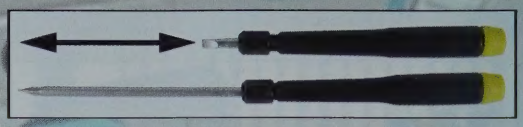
11-PC TOOL SET ▸▸ VTSET18



Specifications :
- contents :
  - flat screwdrivers : 0.16" x 3.9", 0.12" x 3.0", 0.22" x 4.9", 0.26" x 5.9"
  - philips screwdrivers : PH#0 x 3.0", PH#1 x 3.9", PH#2 x 3.9"
  - voltage tester with neon indicator : 230V - 250V
  - heavy-duty pliers : 6.3"
  - heavy-duty long nose pliers : 6.3"
  - heavy-duty universal cutter : 5.9"

SCREWDRIVER SET 7 pcs - 12 BITS ▸▸ VTSET20

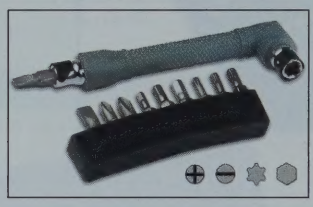




Features :
- bit length adjustable (0.6" - 3.7") by sliding it up into or out of the hollow handle
- 6 different blades (12 bits) (L : 4.3")

Specifications :
- contents :
  - 1 handle (L : 4.3")
  - philips : PH00, PH1
  - flat : 0.08", 0.16"
  - 'star' : T5, T6, T7, T8, T9, T10, T15, T20

10-PC SCREWDRIVER SET ▸▸ VTTS2



The bitholder has a holder for bits on both sides.

Specifications :
- comes with 10 bits : 2 flat, 2 philips, 3 hex and 3 'star'

41-PC TOOLSET ▸▸ VTTS3

Specifications :
- head can be set at an angle of 0±, 45± or 90±
- 38 bits : 14 hex sockets, 16 'star' bits, 3 flat, 3 philips and 2 S-bits
- contents :
  - swivelling head
  - adapter 1/4"
  - magnetic extension
  - 'star' bits : T10, T15, T20, T25; T27, T30, T40
  - flat bits : 3/16", 1/4", 9/32"
  - sockets : 3/16", 1/4", 5/16", 11/32", 3/8", 7/16"
  - sockets : 6, 7, 8 , 9, 10 , 11, 12mm
  - cross bits : PH.1, PH.2, PH.3
  - square sockets : 1, 2
  - hex sockets : 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"
- supplied in a plastic carrying case

34-PC PROFESSIONAL TOOLSET ▸▸ VTTS4

SPECIFICATIONS :
- contains :
  - 5.9" flexible blade
  - magnetic pick-up tool
  - T-ratchet handle
  - 4" stainless steel holder
  - 19 bits : PZ#1, 2, 3 ; #T10, #T15, #T20, #T25, #T30, #T40 ; HEX 3, 4, 5, 6 ; FLAT 4, 6, 7 ; PHILIPS PH#.1, PH#.2, PH#.3 + 1 bit adapter
  - 9 sockets : 0.20", 0.24", 0.28", 0.31", 0.35", 0.39", 0.43", 0.47", 0.51"
- dimensions carrying case : 10.4" x 6.4" x 2.0"

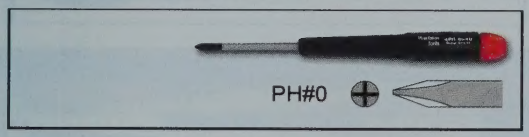
SCREWDRIVERS

SCREWDRIVERS - ELECTRONIC

SPECIFICATIONS :
- HANDLE :
  - swivel-handed cap and color-coded caps for easy identification
  - user-friendly grips for improved comfort
  - special handle for good torque
- BLADES :
  - nickel-chrome molybdenum
  - plated blade to reduce glare and reflection
  - black oxidized tips for greater durability and accuracy
  - horizontally ground tips for greater torque

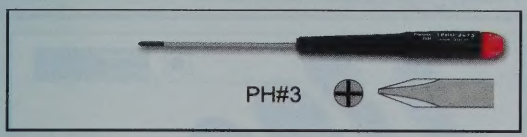
SCREWDRIVERS - PHILIPS

SCREWDRIVER PH0 / 4.7" ▸▸ VTC1



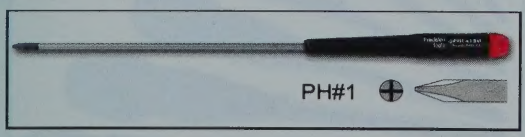
SPECIFICATIONS :
- PH#0 - length : 4.7"

SCREWDRIVER PH0-3 / 6.7" ▸▸ VTC2



SPECIFICATIONS :
- PH#0-3 - length : 6.7"

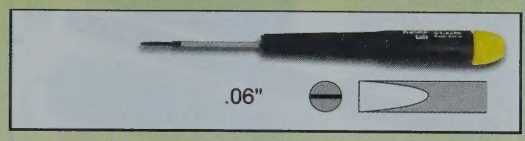
SCREWDRIVER PH1 / 10.0" ▸▸ VTC3



SPECIFICATIONS :
- PH#1 - length : 10.0"

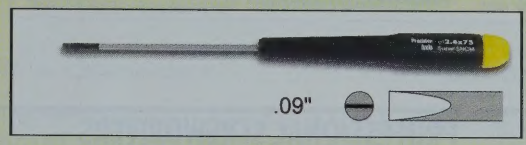
ELECTRONIC SCREWDRIVERS - FLAT

SCREWDRIVER FLAT 0.06" / 4.7" ▸▸ VTF1



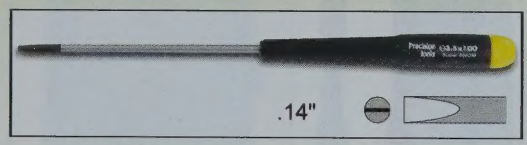
SPECIFICATIONS :
- flat 0.06" - length : 4.7"

SCREWDRIVER FLAT 0.09" / 6.7" ▸▸ VTF2



SPECIFICATIONS :
- flat 0.09" - length : 6.7"

SCREWDRIVER FLAT 0.14" / 8.1" ▸▸ VTF3



SPECIFICATIONS :
- flat 0.14" - length : 8.1"

POCKET SCREWDRIVERS

2-IN-1 POCKET SCREWDRIVER ▸▸ VTCF1

102 pcs in "fishbowl"

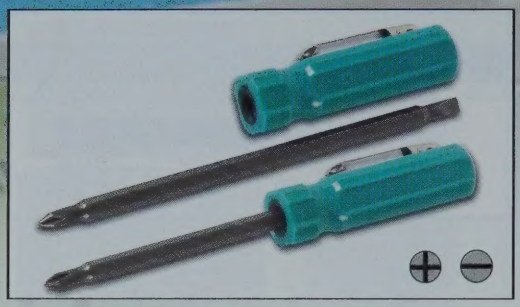
FEATURES :
- screwdriver 2-in-1
- philips & flat point

SPECIFICATIONS :
- total length : 4.7"
- comes in "fish bowl" : 102pcs

B

REFILL FOR VTCF1 : 2-IN-1 POCKET SCREWDRIVER

VTCF1R



FEATURES :
- screwdriver 2-in-1
- philips & flat point

SPECIFICATIONS :
- total length : 4.7"
- refill for VTCF1 : 102 pcs

PROFESSIONAL SCREWDRIVERS

FEATURES :
- made of CrVMo steel
- ergonomic soft-touch handle

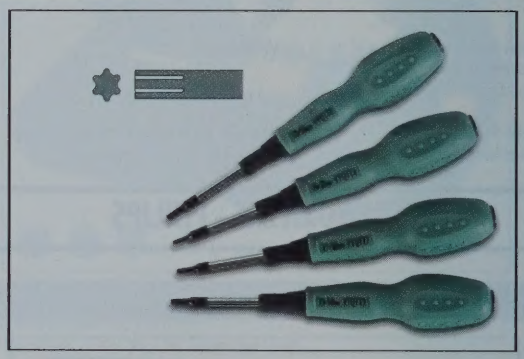
PROFESSIONAL SCREWDRIVERS - PHILIPS

part name	tip	shaft length	length with handle
VTQC1	PH0	2.0"	5.4"
VTQC2	PH0	3.9"	7.4"
VTQC3	PH0	2.95"	6.4"
VTQC4	PH0	7.9"	11.3"
VTQC5	PH1	3.9"	7.8"
VTQC6	PH1	7.9"	11.7"
VTQC7	PH2	3.9"	8.1"
VTQC9	PH2	7.9"	12.0"

PROFESSIONAL SCREWDRIVERS - FLAT

part name	tip	shaft length	length with handle
VTQF1	3.5mm	2.0"	5.4"
VTQF2	4.0mm	3.0"	6.4"
VTQF3	4.0mm	7.9"	11.3"
VTQF4	5.0mm	3.9"	7.8"
VTQF5	5.0mm	5.9"	11.7"
VTQF6	6.0mm	3.9"	8.1"
VTQF7	6.0mm	7.9"	12.0"

PROFESSIONAL SCREWDRIVERS - 'STAR'



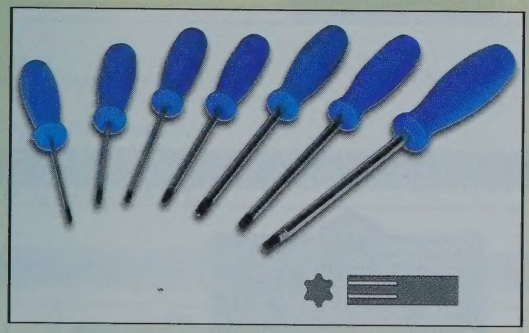
part name	tip	shaft length	length with handle
VTQT6	T6	2.0"	5.4"
VTQT7	T7	2.0"	5.4"
VTQT8	T8	2.0"	5.4"
VTQT9	T9	2.0"	5.4"

PROFESSIONAL SCREWDRIVERS - 'STAR'+CENTRE

part name	tip	shaft length	length with handle
VTQTT10	T10 + centre	2.0"	5.4"
VTQTT15	T15 + centre	3.9"	7.4"
VTQTT20	T20 + centre	3.9"	7.8"
VTQTT25	T25 + centre	4.9"	8.7"
VTQTT27	T27 + centre	4.9"	9.1"
VTQTT30	T30 + centre	4.9"	9.1"
VTQTT40	T40 + centre	5.9"	10.2"

SCREWDRIVERS - ECONOMIC

ECONOMIC SCREWDRIVERS - 'STAR'

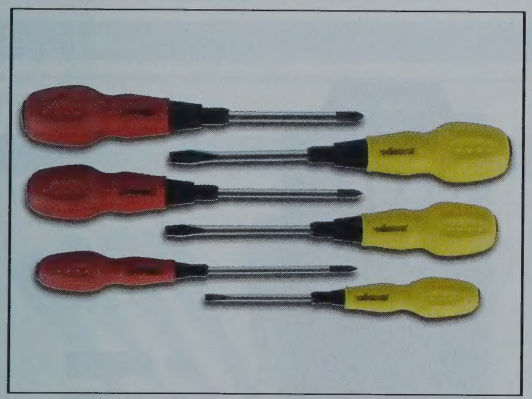


part name	remark	length
VTT27	'star' #T27	8.0"
VTT30	'star' #T30	8.0"
VTT40	'star' #T40	9.3"

PRECISION SCREWDRIVER SETS

Features :
- ideal for : TV sets, communication instruments, optical instruments, cameras, computers, VCR's, telephones, etc.

6-PC SCREWDRIVER SET WITH "SOFT GRIP" ▸▸ VTSCRSET8



Features :
- ergonomic "soft-grip" handle
- hardened blades of chrome vanadium-molybdenum steel with magnetised tip

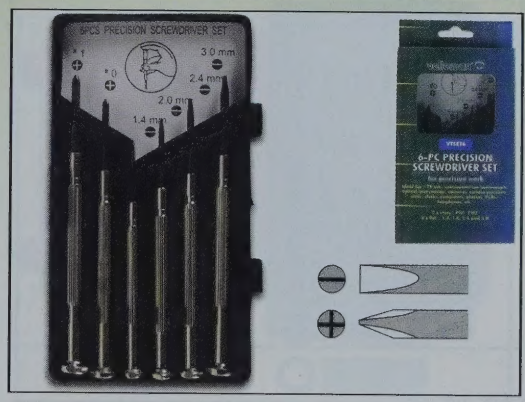
Specifications :
- flat : 4x75mm, 5x100mm, 6x150mm
- cross : PH0x75mm, PH1x100mm, PH2x150mm

10-PC ELECTRONIC SCREWDRIVER SET ▸▸ VTSET17

Features :
- special set for watches, precision applications, etc.

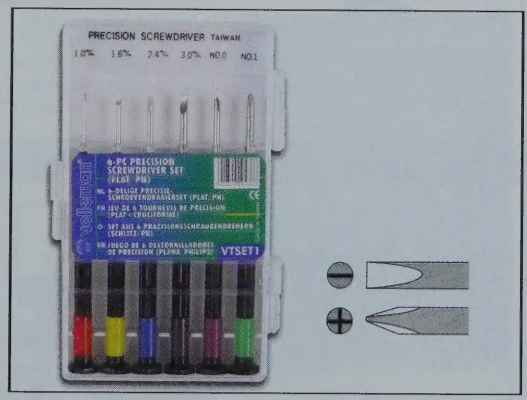
Specifications :
- philips : 1 PH0, 1 PH1
- flat : 1 0.05", 4 0.04", 1 0.06", 1 0.08"

6-PC PRECISION SCREWDRIVER SET ▸▸ VTSET6



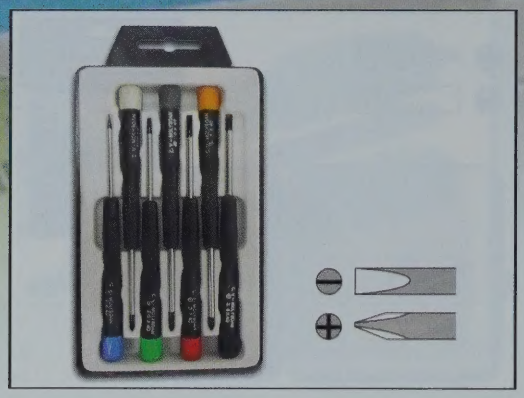
Specifications :
- 2 philips : PH#1, PH#0
- 4 flat : 0.06", 0.07", 0.09" and 0.12"

6-PC PRECISION SCREWDRIVER SET (FLAT/PH) ▸▸ VTSET1



Specifications :
- flat : 0.04", 0.06", 0.09", 0.12"
- philips : PH#0, PH#1
- size : 4.1"

7-PC SCREWDRIVER SET — VTSET13



SPECIFICATIONS :
- flat : 0.08"x1.6", 0.10"x1.6", 0.12"x1.6", 0.14"x1.6"
- philips : PH#00x1.6", PH#0x1.6", PH#1x1.6"

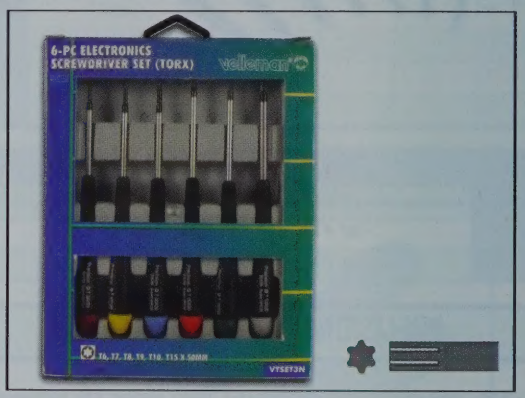
6-PC ELECTRONIC SCREWDRIVER SET ('STAR') — VTSET3

SPECIFICATIONS :
- #T6, #T7, #T8, #T9, #T10, #T15
- size : 4.7"

6-PC ELECTRONIC SCREWDRIVER SET (FLAT/PH) — VTSET2

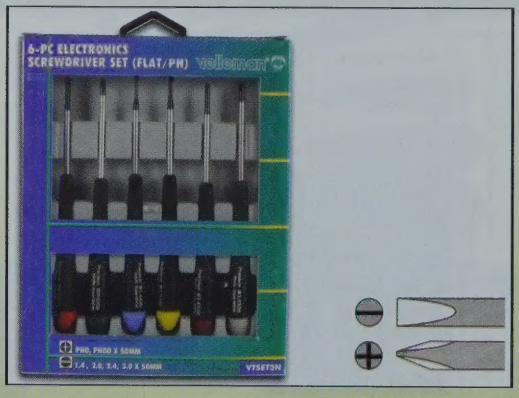
SPECIFICATIONS :
- flat : 0.05", 0.08", 0.09", 0.12"
- philips : PH#0, PH#1-2
- size : 4.7"

6-PC ELECTRONICS SCREWDRIVER SET ('STAR') — VTSET3N



SPECIFICATIONS :
- T6, T7, T8, T9, T10, T15 x 2.0"
- size : 5.1"

6-PC ELECTRONICS SCREWDRIVER SET (FLAT/PH) — VTSET2N



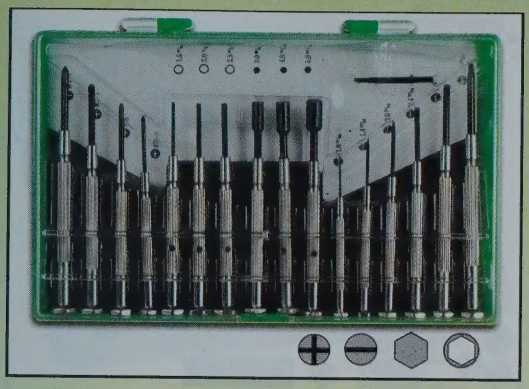
SPECIFICATIONS :
- flat : 0.06", 0.08", 0.09", 0.12" x 2.0"
- philips : PH0, PH00 x 2.0"
- size : 5.1"

6-PC ELECTRONIC SCREWDRIVER SET (HEX/BALL) — VTSET4

SPECIFICATIONS :
- ball : 0.05", 0.06", 0.08", 0.10", 0.12"
- hex : 0.04"
- size : 4.7"

16-PC PRECISION SCREWDRIVER AND TOOL SET

VTSET5



FEATURES :
- swivel-headed cap
- black oxidized tips for greater durability and accuracy

SPECIFICATIONS :
- 4 philips : PH#1-1, PH#1-2, PH#0, PH#0-2
- 3 socket : 0.12", 0.16", 0.20"
- 3 hex : 0.06", 0.08", 0.10"
- 6 flat : 0.04", 0.06", 0.08", 0.09", 0.12", 0.15"

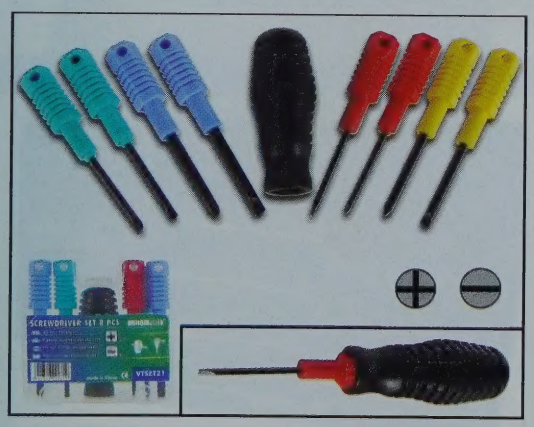
15-PC SCREWDRIVER TOOL SET

VTSET15

SPECIFICATIONS :
- flat : 0.12"x1.6", 0.08"x1.6", 0.10"x1.6", 0.14"x1.6", 0.16"x1.6"
- philips : PH#00x1.6", PH#0x1.6", PH#1x1.6", PH#2x1.6"
- 'star' : #T6x1.6", #T8x1.6", #T9x1.6", #T10x1.6", #T15x1.6", #T20x1.6"
- size : 4.7"

8-IN-1 SCREWDRIVER SET

VTSET21

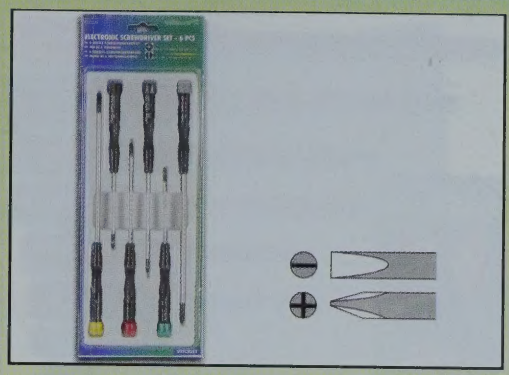


FEATURES :
- 4 x philips and 4 x flat screwdriver
- each screwdriver fits into the handle, which yields a greater torque

SPECIFICATIONS :
- 4 flat : 0.10"x1.6", 0.12"x1.6", 0.16"x1.6", 0.20"x1.6"
- 4 philips : PH00x1.6", PH0x1.6", PH1x1.6", PH2x1.6"
- length of a screwdriver : 3.4"

ELECTRONIC SCREWDRIVER SET - 6 PCS

VTSCRSET

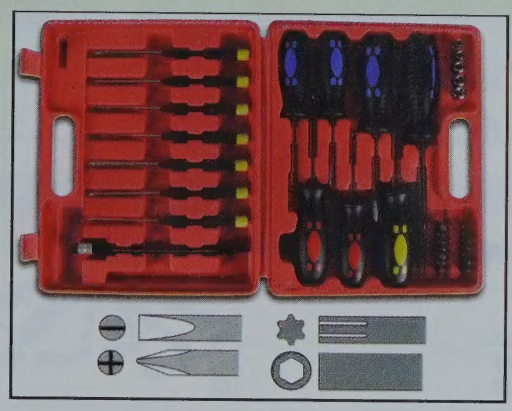


FEATURES :
- for applications in the field of electronics : for fixing computers, TV sets, communication instruments, radios, cameras, glasses, clocks, watches and other kinds of precision devices
- black oxidized tips
- plastic handle with swivel-headed cap

SPECIFICATIONS :
- flat : 0.09"x3.0", 0.12"x3.9", 0.16"x5.9" - PH : #00x3.0", #0x3.9", #1x5.9"

34-PC TOOL SET

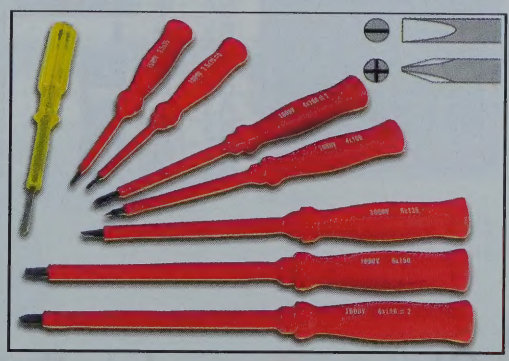
VTSET19



SPECIFICATIONS :
- contents :
  - flexible extension shaft 7.5"
  - precision screwdrivers :
    - 4 flat : 0.08"x3.0", 0.10"x3.0", 0.12"x3.0", 0.16"x3.0"
    - 3 philips : 0.10"x3.0" PH#00, 0.12"x3.0" PH#0, 0.16"x3.0" PH#1
  - handle screwdrivers :
    - 4 flat : 0.16"x3.0", 0.20"x3.0", 0.24"x3.9", 0.31"x5.9"
    - 3 philips : 0.20"x3.0" PH#1, 0.24"x3.9" PH#2
  - 13 bits : T10, T15, T20, T25, T27, T30, T40, H2, H3, H4, H5, H5.5, H6
  - 1/4" sockets (5pcs) : 0.20", 0.24", 0.28", 0.31", 0.35" + 1/4" socket holder
  - 1 bit holder : 2.8"

8-PC SCREWDRIVER SET WITH VOLTAGE LIGHT TESTER

VTSCRSET1



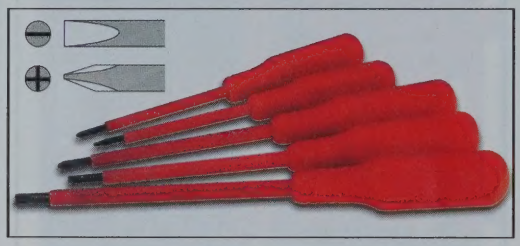
SPECIFICATIONS :
- flat : 0.24"x5.9", 0.20"x4.9", 0.16"x3.9", 0.16"x3.7", 0.10"x3.0"
- philips : PH#0, PH#1, PH#2
- includes voltage light tester (110-500V)

B

5+1 PC SCREWDRIVER SET WITH NEON LIGHT TESTER ▸▸ VTSCRSET7

Specifications :
- fully insulated (1000V) - VDS/TÜV
- flat : 0.16"x3.9", 0.22"x4.9", 0.26"x5.9"
- philips : PH#0x3.0", PH#1x3.9"
- includes voltage tester with neon indicator (230-250V)

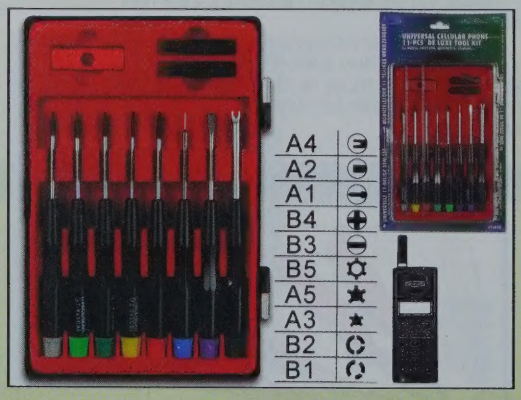
5-PC SCREWDRIVER SET ▸▸ VTSCRSET5



Features :
- chrome-vanadium
- fully insulated
- red plastic grip

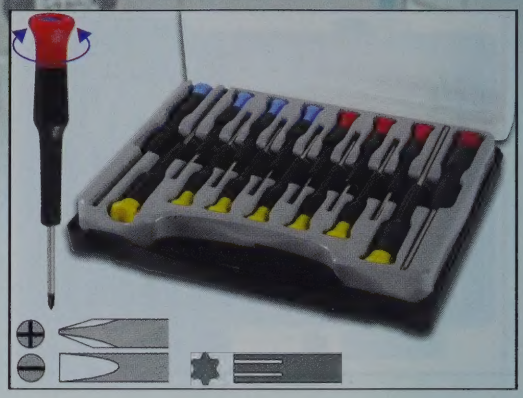
Specifications :
- 3 flat
- 2 philips

11-PC UNIVERSAL CELLULAR PHONE DE LUXE TOOL KIT ▸▸ VTSET8



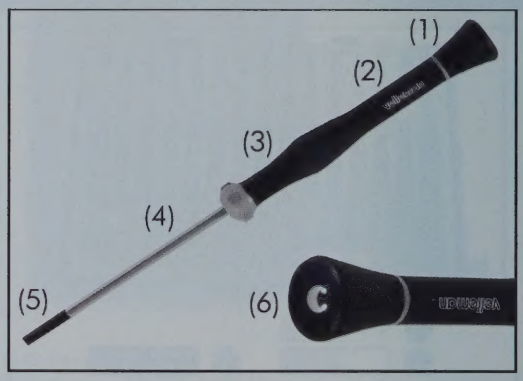
Specifications :
- screwdrivers : U-shaped, curved, needle tip, 1 philips, 1 flat, 3 'star' and 2 antenna removers
- with colored swivel caps

15 PCS SCREWDRIVER SET ▸▸ VTSET16



Specifications :
- chrome vanadium steel blade, satin finish
- lengths : 4 6 1/2" and 11 4 3/4"
- contains :
  - 'star' : #T6, #T7, #T8, #T9, #T10, #T15, #T20
  - flat : 0.08", 0.10", 0.12", 0.16"
  - philips : PH#000, PH#00, PH#0, PH#1

PRECISION SCREWDRIVER SETS (MICROTIP)

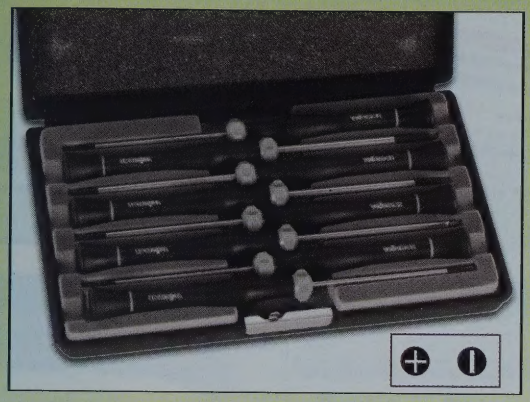


Features :
- special handle with swivel cap
- black tip, chrome-molybdenum vanadium steel
- picture :
  - (1) rotating head : to facilitate support and rotation control
  - (2) handle : varying diameter for flexible grip position and torque (high impact resistance, cadmium-free material, easy to recycle)
  - (3) tapered groove : for better grip and faster rotation
  - (4) blade : made of high-quality alloy chrome-vanadium steel, heat-treated
  - (5) black tip : for high precision / protection from corrosion
  - (6) metal ball : for easier operation

SET OF 6 PRECISION HEX SCREWDRIVERS (MICROTIP) ▸▸ VTSET10

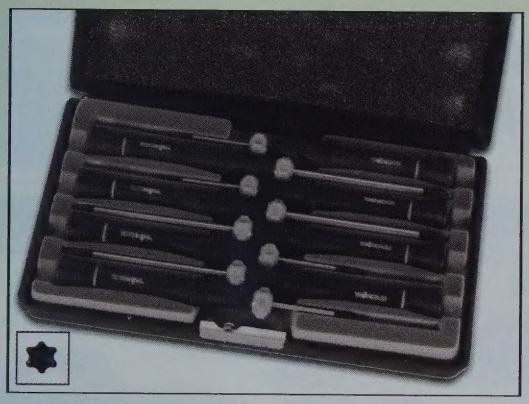
Specifications :
- 4 metric : 0.13"x2.9", 0.16"x2.9", 0.20"x2.9", 0.22"x2.9"
- 2 inch : 1/8"x2.9", 3/16"x2.9"

SET OF 8 PRECISION SCREWDRIVERS (MICROTIP) ▸▸ VTSET11



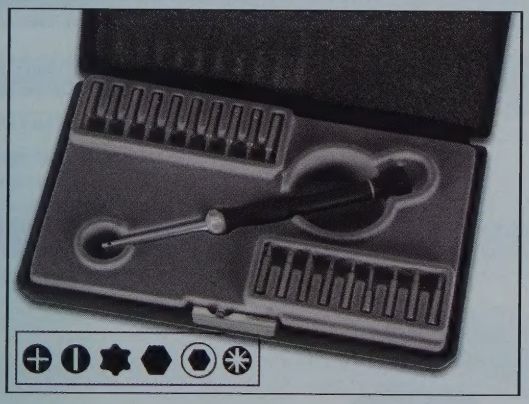
SPECIFICATIONS :
- 5 flat : 0.08"x2.9", 0.10"x2.9", 0.12"x2.9", 0.14"x2.9", 0.16"x2.9"
- 3 philips : PH#0-0x2.9", PH#0x2.9", PH#1x2.9"

SET OF 8 PRECISION 'STAR' SCREWDRIVERS (MICROTIP) ▸▸ VTSET12



SPECIFICATIONS :
- 8 'star' : #T5x1.6", #T6x1.6", #T7x1.6", #T8x1.6", #T9x2.9", #T10x2.9", #T15x2.9", #T20x2.9"

ELECTRONICS BIT SET (19PCS) WITH SCREWDRIVER (MICROTIP) ▸▸ VTSET9



FEATURES :
- 20-pc precision bit set

SPECIFICATIONS :
- 2 philips : PH#0-0, PH#0
- 4 flat : 0.08", 0.10", 0.12", 0.16"
- 5 'star' : #T6, #T7, #T8, #T9, #T10
- 3 hex : 0.06", 0.08", 0.10"
- 3 ball : 0.06", 0.08", 0.10"
- 2 pozzi : PZ#0-0, PZ#0

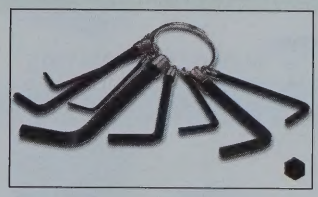
SET OF 2 PLIERS, TWEEZERS AND 8 SCREWDRIVERS (MICROTIP) ▸▸ VTSET14

SPECIFICATIONS :
- 1 4" long nose pliers
- 1 4" diagonal pliers
- 1 4.9" tweezers
- 5 flat : 0.05"x1.6", 0.06"x1.6", 0.07"x1.6", 0.08"x1.6", 0.09"x1.6"
- 3 philips : PH#000, PH#00, PH#0

HEX KEY AND 'STAR' WRENCH SETS

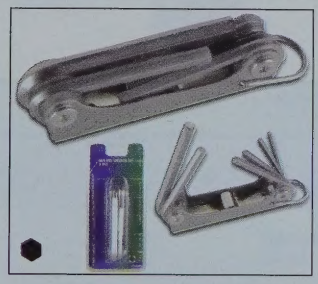
HEX KEY WRENCH SETS

HEX KEY WRENCH SET - 8PCS ▸▸ VTHEX8



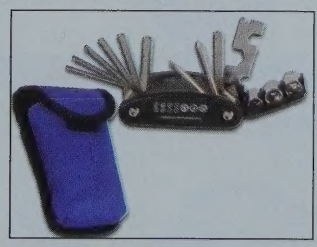
SPECIFICATIONS :
- hex : 0.06", 0.08", 0.10", 0.12", 0.14", 0.16", 0.20", 0.24"

HEX KEY WRENCH SET - 6 pcs ▸▸ VTHEX6



SPECIFICATIONS :
- hex : 2.5, 3, 4, 5, 6, 8
- chrome-vanadium steel

MULTIFUNCTIONAL BICYCLE TOOL KIT ▸▸ VTTS6

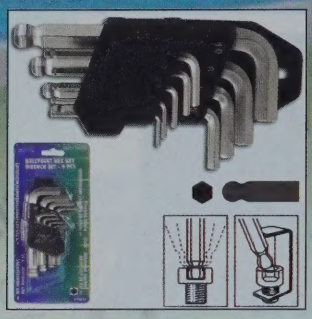


FEATURES :
- 16 tools in one to be carried on your belt in a practical case
- ideal for houshold and leisure use
- high-quality nickel-plated tool steel

SPECIFICATIONS :
- 4 spanners : 8 / 10 / 15mm + 14 GE
- 6 ring spanners : 2 / 2.5 / 3 / 4 / 5 / 6mm
- 1 crosshead screwdriver
- 1 flat-blade screwdriver
- 3 socket spanners : 8 / 9 / 10mm
- 1 bit adapter

B

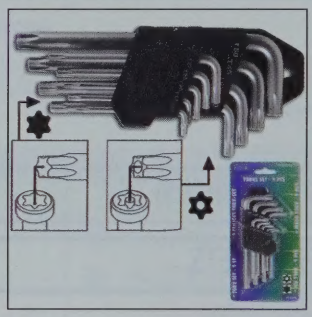
BALLPOINT HEX KEY WRENCH SET - 9 pcs — VTHEX9



Specifications :
- hex : 0.06"x0.18", 0.08"x0.19", 0.10"x0.21", 0.12"x0.23", 0.16"x0.26", 0.20"x0.29", 0.24"x0.32", 0.31"x0.37", 0.39"x0.44"
- chrome-vanadium steel

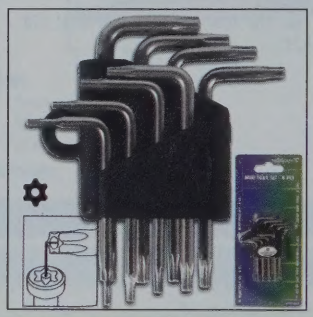
'STAR' SETS

'STAR' SET - 9 pcs — VTTORX



Specifications :
- 'star' : T10x5.5, T15x6.0, T20x7.1, T25x7.6, T27x8.4, T30x9.4, T40x10.6, T45x11.9, T50x13.4
- chrome-vanadium steel

MINI 'STAR' SET - 8 pcs — VTTORX2



Specifications :
- 'star' : T5x4.2, T6x4.2, T7x4.8, T8x5, T9x5, T10x5.4, T15x5.7, T20x6.2
- chrome-vanadium steel

ADJUSTERS

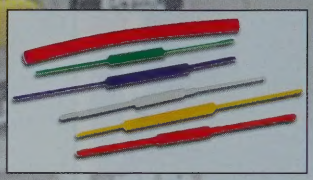
2-PC CERAMIC ADJUSTER SET — VTCA

Specifications :
- flat 0.07"
- PH#0
- with protective caps
- size : 3.9"

2-IN-1 CERAMIC ADJUSTER — VTCT2

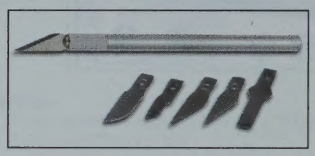
Specifications :
- flat 0.07"
- PH#0
- with protective caps
- size : 6.3"

6-PC PLASTIC TUNING NEEDLE SET — VTPT



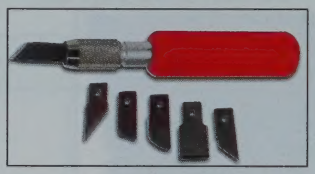
KNIVES, CUTTERS AND SAWS

PRECISION KNIFE WITH 5-PC BLADE SET — VTK1



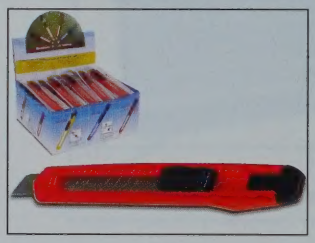
Specifications :
- size : 5.7"

HEAVY-DUTY KNIFE WITH 5-PC BLADE SET — VTK2



Specifications :
- size : 5.1"

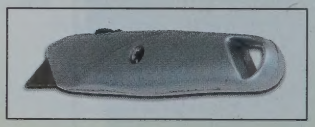
SMALL CUTTER — VTK3B



Features :
- with lock
- supplied in display box : 60pcs

Specifications :
- size : 4.9"

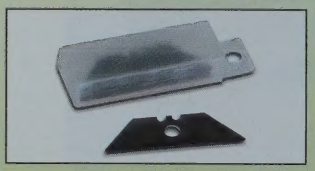
CUTTER - METAL HOUSING — VTK4



Features :
- metal housing
- high-Q lock button
- set of spare blades : -
  - set of spare blades : VTSB3 (see p.66) (5pcs)

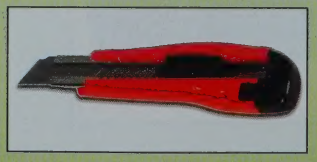
Specifications :
- size : 6.1"

SET OF SPARE BLADES FOR VTK4 - 5PCS — VTSB3



Specifications :
- 5pcs
- for VTK4 (see p.66)

BIG CUTTER — VTK5



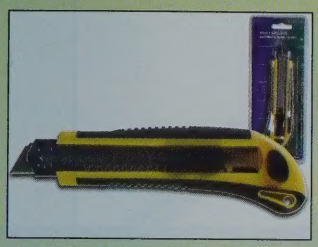
Features :
- plastic handle with metal protection
- with lock button
- set of spare blades : -

Specifications :
- size : 6.3"

SET OF SPARE BLADES FOR VTK5/VTK9 - 12pcs — VTKSB1

SPECIFICATIONS :
- 12pcs

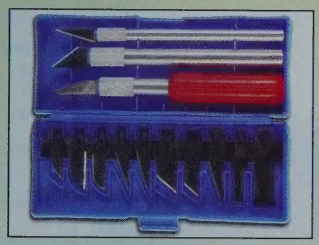
UTILITY KNIFE WITH AUTOMATIC BLADE CHANGE — VTK9



FEATURES :
- automatic blade change
- cartridge with three 0.71" blades - each with 8 practical snap-off sections
- spare blades : VTKSB1 (see p.67)

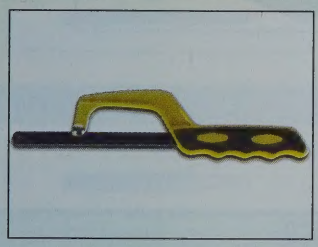
SPECIFICATIONS :
- length : 6.5"

13-PC HEAVY-DUTY KNIFE SET — VTK7



FEATURES :
- contains : 3 cutters with blade and 10 spare blades

MINI HACKSAW WITH SOFT GRIP — VTMS1

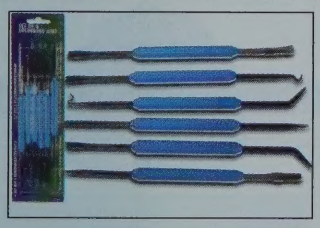


FEATURES :
- miniature metal hacksaw with soft grip
- standard 6" saw (length 26.5cm)
- saw is replaceable

SPECIFICATIONS :
- usable surface : 18.5cm

TOOL ACCESSORIES

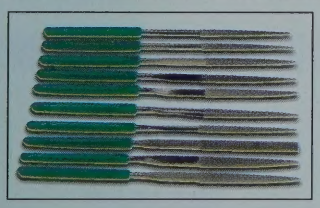
SOLDERING AIDS — VTSA



Set of 6 soldering aids.

FEATURES :
- contents : specialized soldering aids to protect your heat-sensitive components, knife and brushes, scraper and hooks, fork and spikes

SET OF DIAMOND FILES - 10PCS — VTDF1



SPECIFICATIONS :
- powder-coated
- 10pcs
- size : 4.7"

SET OF DIAMOND FILES - 5PCS — VTDF2

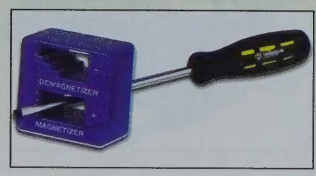
SPECIFICATIONS :
- powder-coated
- 5pcs
- size : 5.5"

HELPING HAND WITH MAGNIFIER — VTHH

FEATURES :
- when 2 hands are not enough
- with magnifier, dioptre 2.5

SPECIFICATIONS :
- size : 4.9" x 2.2" x 7.7"

MAGNETIZER - DEMAGNETIZER — VTMD



* screwdriver not included

FEATURES :
- magnetizes / demagnetizes all kind of tools

SPECIFICATIONS :
- size : 2.0" x 2.0" x 1.2"

FOLDING MAGNIFIER - Ø 2.4" — VTMG1

Magnifier with pliable frame. Ideal e.g. for work on printed circuits.

SPECIFICATIONS :
- dioptry : 5x
- Ø : 2.4"

FOLDING MAGNIFIER - Ø 4.0" — VTMG2

Large model, executed in mineral glass. Ideal e.g. for soldering activities on PCB's.

SPECIFICATIONS :
- dioptry : 2.5x
- Ø : 4.0"

ILLUMINATED MAGNIFYING GLASS — VTMG3

FEATURES :
- with illumination

SPECIFICATIONS :
- Ø : 3.1"
- works on : 2 1.5V AA batteries (not incl.)

B

HEAD MAGNIFYING GLASS — VTMG4

Specifications :
- single magnifying glass : 2.2x
- double magnifying glass : 3.3x
- weight : 3.5oz

HEAD MAGNIFYING GLASS WITH LIGHT — VTMG6

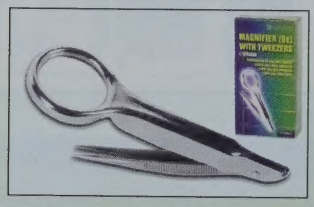
Features :
- head magnifying glass with dual light
- magnifying glass with adjustable dioptry : 1.8 / 2.3 / 3.7 / 4.8 by making a combination of the glasses

Specifications :
- power supply : 4 1.5V AA batteries (not incl.)
- dimensions : 7.9" x 2.4" x 5.5"
- weight : 5.3oz

GOOSENECK MAGNIFIER — VTMG5

Specifications :
- dioptre : 3x
- arm length : 20.1"
- with mounting bracket

MAGNIFIER(6x) WITH TWEEZERS — VTMG7



Features :
- stainless steel tweezers met magnifying glass

Specifications :
- magnification factor : 6
- dimensions :
  - Ø glass : 1.0"
  - length tweezers : 2.4"
- weight : 1.1oz

INSULATION TAPE SET PVC

INSULATION TAPE (6 x 5m) — T5S

Set of 6 rolls of tape in different colours.

Specifications :
- different colours : yellow, white, green, black, blue, red (individual length : 5m)

CARRYING BAGS

TOOL BAG — VTBAG1

Specifications :
- color : dark-green
- dimensions : 15.6" x 11.4" x 3.5" x 2.8"

LARGE TOOLBAG — VTBAG2

Features :
- 15-1/2" tool bag with 5 compartments
- double layer of rugged, lightweight nylon

Specifications :
- dimensions : 38.1 x 19 x 30.5cm
- tools not included

SOLDER

LEAD-FREE SOLDER 96% Sn - 4% Ag

Specifications :
- lead-free
- 96% Sn - 4% Ag
- with resin core
- melting point : 220±C

part name	weight	Ø	remark
SOLD50068N	500g	0.8mm	-

ELECTRIC SOLDERING TOOLS

SOLDERING IRONS

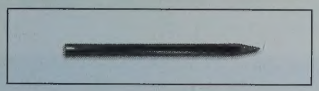
SOLDERING IRON 20W / 110V — VTS20U

A high-quality, mains-powered soldering iron of 20W for general purposes.

SPECIFICATIONS :
- power supply : 20W / 110V AC
- UL approved
- spare bit : BITU20 (see p.69)

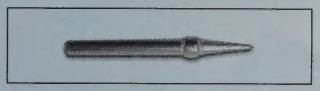
SOLDERING IRON BITS

SPARE BIT FOR VTS20U - 0.04" — BITU20



SPECIFICATIONS :
- tip : 0.04"

SPARE BIT FOR VTS25 - 1/32" — BIT25



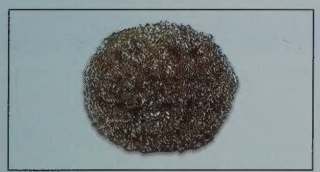
SPECIFICATIONS :
- tip : 1/32"

SOLDERING ACCESSORIES

PROFESSIONAL SOLDER TIP CLEANER — VTSTC

SPECIFICATIONS :
- Ø : 3.54"
- spare golden curls : VTSTCGC (see p.69)

SPARE GOLDEN CURLS FOR VTSTC — VTSTCGC

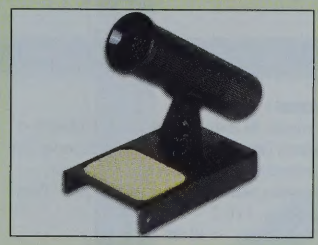


SPECIFICATIONS :
- for VTSTC (see p.69)

UNIVERSAL SOLDERING IRON STAND — STAND40

FEATURES :
- ideal for : small soldering irons
- with cleaning sponge

SOLDERING IRON STAND — STAND50

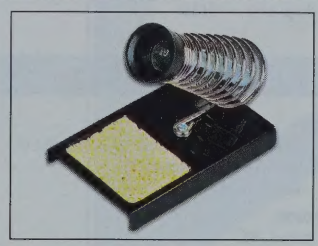


SPECIFICATIONS :
- heavy-duty
- with cleaning sponge

SOLDERING IRON STAND - DELUXE — STAND60

FEATURES :
- with solder and iron holder and sponge
- solder is not included

ECONOMIC SOLDERING IRON STAND — STANDLC

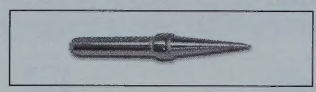


FEATURES :
- economic version
- with cleaning sponge

SOLDERING STATIONS

SPARE BITS FOR SOLDERING STATIONS

SPARE BIT FOR VT-SS10/20/30 - 1/64" — BIT64



SPECIFICATIONS :
- tip : 1/64"

B

ANTISTATIC PRODUCTS

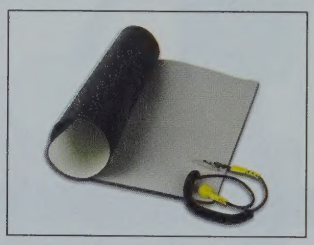
ANTISTATIC VELCRO WRIST STRAP - BLACK — AS2

Specifications :
- material : the conductive Velcro tape is made of nylon and the interior surface is coated with conductive carbon
- grounding cord : PU coil cord with resistor of 1 Mohm
- band size : 2 x 9.1"
- color : black

ANTI-STATIC ADJUSTABLE ELASTIC WRIST STRAP - BLUE — AS3

Specifications :
- material : the conductive elastic tape is a combination of polyester (exterior) and woven stainless steel (interior). This combination insulates the surface of the elastic band.
- grounding cable : 6ft. PU coil cord with resistor of 1 Mohm
- band size : 2 x 8.3"
- band resistivity : < 50 ohm
- color : blue

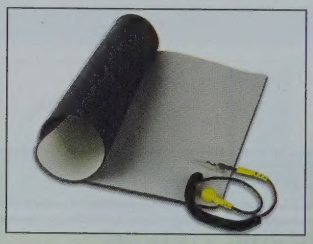
PVC ANTI-STATIC MAT WITH GROUND CABLE — AS4



Features :
- : dual purpose PVC-latex material can be used either as dissipative or conductive matting
- : easy to clean and maintain

Specifications :
- material : PVC
- dimensions : 11.8" x 22"
- thickness : 0.08"
- with grounding cord
- surface resistivity : 10e7 ~ 10e10 ohm/m²
- charge decay : < 0.03sec

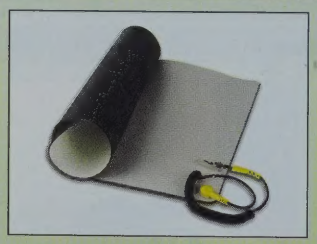
PVC ANTI-STATIC MAT WITH GROUND CABLE — AS5



Features :
- : dual purpose PVC-latex material can be used either as dissipative or conductive matting
- : easy to clean and maintain

Specifications :
- material : PVC
- dimensions : 19.7" x 23.6"
- thickness : 0.08"
- with grounding cord
- surface resistivity : 10e7 ~ 10e10 ohm/m²
- charge decay : < 0.03sec

ANTISTATIC MAT WITH GROUNDING CORD — AS8



Specifications :
- dimensions : 30" x 42"

GAS SOLDERING IRONS

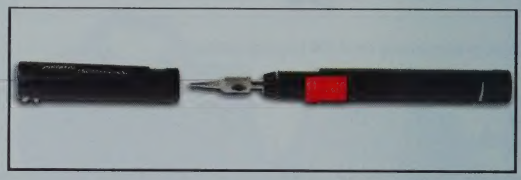
SEMI-PROFESSIONAL GAS SOLDERING IRONS

GAS SOLDERING IRON / TORCH — GASIRON2

Features :
- cordless soldering iron
- can be used also as torch and as hotblower
- portable soldering tool, powered by butane gas
- with on/off switch

Specifications :
- autonomy : 40 min. (average use)
- temperature : max. 450±C

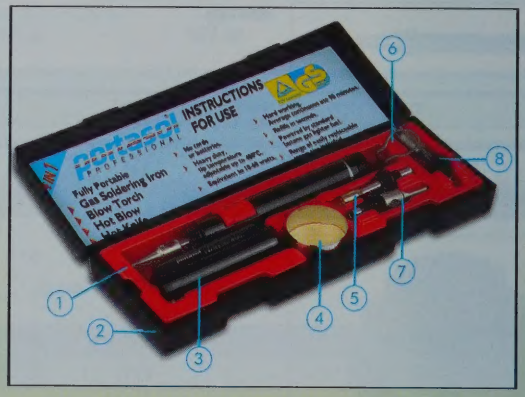
PORTASOL SEMI-PROFESSIONAL GAS SOLDERING IRON — GAS/PROF



Features :
- portable soldering tool, powered by butane gas
- cordless
- fast, flint-sparked ignition through built-in lighter in the cap
- refills in less than 10 seconds
- melts solder in less than 40 seconds
- built-in catalytic converter provides a powerful yet safe flameless combustion

Specifications :
- autonomy : 90min
- refill time : 10sec
- temperature tip (max.) : 842±F
- adjustable temperature
- equivalent to 10 - 60W
- standard tip : BITP2.4
- available tips : BITP1.0, BITP2.4, BITP3.2, BITP4.8, BITP/B, BITP/K, BITP/T

PORTASOL COMPLETE SET - SEMI-PROFESSIONAL — GAS/SET



1) iron-plated soldering tip (0.09")
2) rugged plastic storage case
3) Portasol soldering tool with 0.1" tip
4) cleaning sponge
5) blowtorch accessory
6) safety stand
7) hot blower accessory
8) hot knife accessory

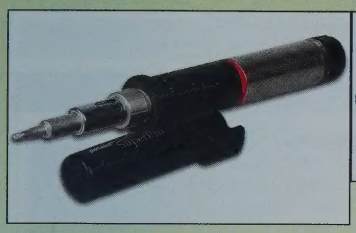
Features :
- portable soldering tool, powered by butane gas
- cordless
- fast, flint-sparked ignition through built-in lighter in the cap
- refills in less than 10 seconds
- melts solder in less than 40 seconds
- built-in catalytic converter provides a powerful yet safe flameless combustion

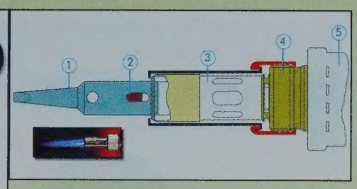
Specifications :
- autonomy : 90min
- refill time : 10sec
- temperature tip (max.) : 842±F
- adjustable temperature
- equivalent to 10 - 60W
- standard tip : BITP2.4, BITP/B, BITP/A, BITP/K
- available tips : BITP1.0, BITP2.4, BITP3.2, BITP4.8, BITP/B, BITP/K

GAS TORCHES

Features :
- drawing :
  - 1) : tip
  - 2) : catalyst
  - 3) : tip retention tube
  - 4) : retaining nut
  - 5) : iron body

PORTASOL SUPERPRO SOLDERING IRON ▸▸ GAS/PRO

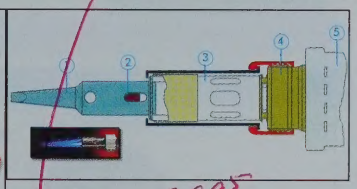




Features :
- piezo ignition
- power adjustment
- range of 6 soldering tips
- stainless steel gas tank provides 2 hours of operating time

Specifications :
- autonomy : 120min
- refill time : 30sec
- temperature tip (max.) : 1076±F
- adjustable temperature
- equivalent to 25 - 125W
- standard tip : BITSP2.4
- available tips : BITSP1SF , BITSP2SF, BITSP3SF, BITSP4SF, BITSP1.0, BITSP2.4, BITSP3.2, BITSP4.8, BITSP/B, BITSP/K, DEFLECTOR

PORTASOL SUPERPRO SOLDERING TOOL SET ▸▸ GAS/PROSET

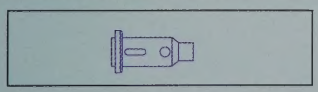


Features :
- piezo ignition
- power adjustment
- range of 6 soldering tips
- stainless steel gas tank provides 2 hours of operating time

Specifications :
- autonomy : 120min
- refill time : 30sec
- temperature tip (max.) : 1076±F
- adjustable temperature
- equivalent to 25 - 125W
- standard tip : BITSP2.4, BITSP4.8, BITSP/B + DEFLECTOR, BITSP/K
- available tips : BITSP1SF, BITSP2SF, BITSP3SF, BITSP4SF, BITSP1.0, BITSP2.4, BITSP3.2, BITSP4.8, BITSP/B, BITSP/K, DEFLECTOR

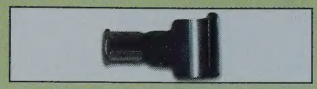
BITS

SPARE HOT BLOW BIT - SUPERPRO ▸▸ BITSP/B



Features :
- for GAS/PRO (see p.71) and GAS/PROSET (see p.71)

DEFLECTOR (FOR CRIMPING TUBE) - SUPERPRO ▸▸ DFLECTOR

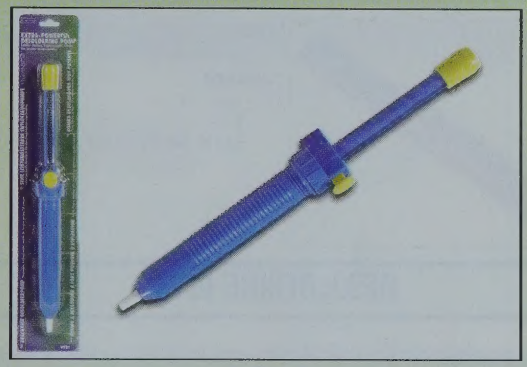


Features :
- for GAS/PRO (see p.71) and GAS/PROSET (see p.71)

DESOLDERING TOOLS

DESOLDERING PUMPS

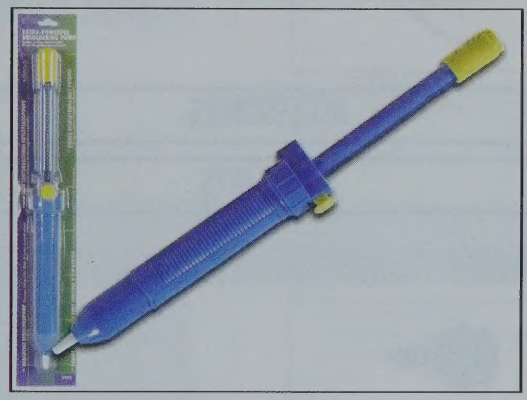
POWERFUL DESOLDERING PUMP ▸▸ VTD1



Features :
- TEFLON-nozzle

Specifications :
- length : 10.8"

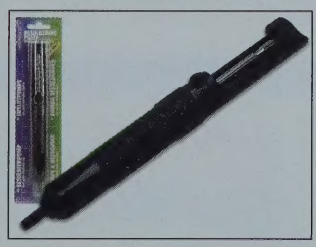
EXTRA-POWERFUL DESOLDERING PUMP ▸▸ VTD2



Features :
- TEFLON-nozzle

Specifications :
- length : 13.2"

DESOLDERING PUMP WITH ANTISTATIC TIP ▸▸ VTD3

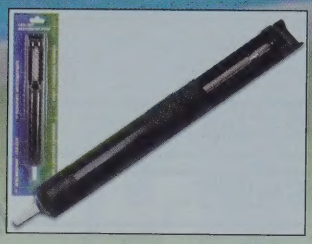


Features :
- antistatic tip

Specifications :
- length : 7.5"
- Ø : 0.8"
- spare bit : BITVTD3 (see p.72)

B

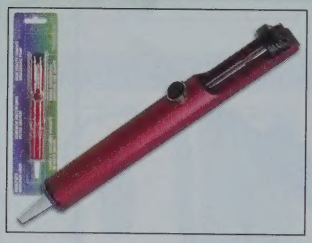
ECONOMIC DESOLDERING PUMP ▸▸ VTD4



FEATURES :
- material : ABS & aluminum

SPECIFICATIONS :
- length : 7.5"
- Ø : 0.8"
- spare bit : BITVTD4 (see p.72)

H.Q. DESOLDERING PUMP ▸▸ VTD5

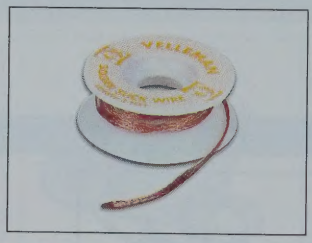


FEATURES :
- aluminum body in 1 piece

SPECIFICATIONS :
- length : 6.4"
- Ø : 0.7"
- spare bit : BITVTD5 (see p.72)

DESOLDERING BRAID

DESOLDERING BRAID ▸▸ DESOLDER



SPECIFICATIONS :
- Ø : 0.08"
- length : 59"

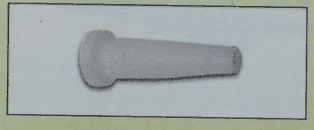
ACCESSORIES

SPARE BITS

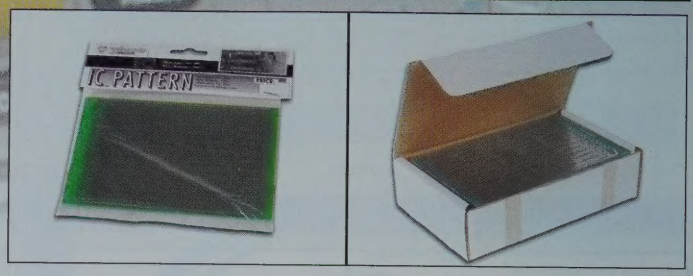
SPARE TIP FOR VTD3 ▸▸ BITVTD3

SPARE TIP FOR VTD4 ▸▸ BITVTD4

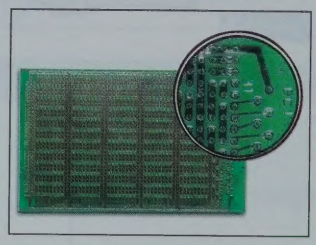
SPARE TIP FOR VTD5 ▸▸ BITVTD5



EUROCARDS

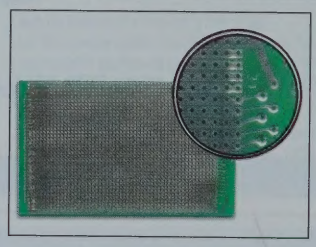


EUROCARD IC PATTERN - 3.9" x 6.3" - FR4 ▸▸ ECI



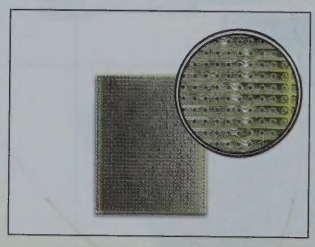
SPECIFICATIONS :
- track : IC pattern
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD FULL LINE - 3.9" x 6.3" - FR4 ▸▸ ECL



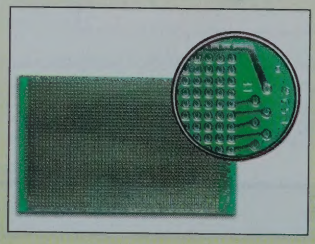
SPECIFICATIONS :
- track : full line
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD FULL LINE - 3.9" x 3.1" - FR4 ▸▸ ECL1/2



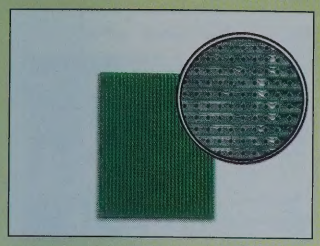
SPECIFICATIONS :
- track : full line
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x3.1"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD 1-HOLE ISLAND - 3.9" x 6.3" - FR4 ▸▸ ECS1



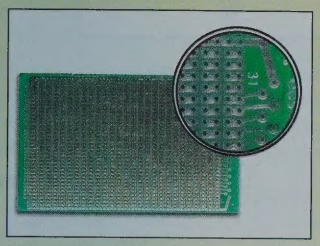
SPECIFICATIONS :
- track : 1-hole island
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD 1-HOLE ISLAND - 3.9" x 3.1" - FR4 ECS1/2



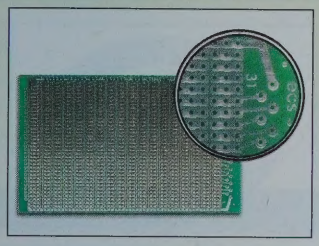
SPECIFICATIONS :
- track : 1-hole island
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x3.1"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD 2-HOLE ISLAND - 3.9" x 6.3" - FR4 ECS2



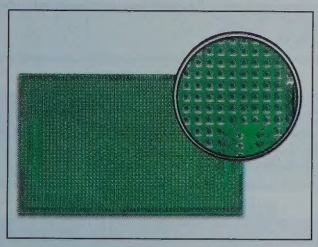
SPECIFICATIONS :
- track : 2-hole island
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD 3-HOLE ISLAND - 3.9" x 6.3" - FR4 ECS3



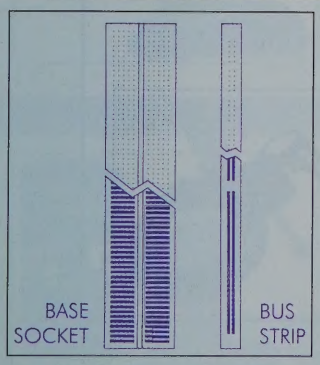
SPECIFICATIONS :
- track : 3-hole island
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- compatible with eurodin connectors DIN41617 and DIN41612
- packaging : 1pc in blister

EUROCARD SUBD25/CENTR - 3.9" x 6.3" - FR4 ECSD



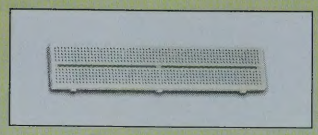
SPECIFICATIONS :
- track : subd25/centr
- material : single-sided board, epoxy FR-4, 0.06", 1/0 oz. tinned copper, HASL
- bore Ø : 0.041"
- dimensions : 3.9"x6.3"
- packaging : 1pc in blister

HIGH-Q SOLDERLESS BREADBOARDS



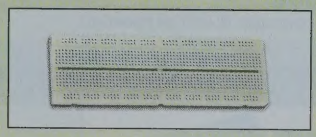
FEATURES :
- base socket (see figure) : twin columns of 5 x 64 terminals are separated by a 0.3" center channel
- bus strip (see figure) : 4 buses of 25 connected terminals are arranged in 4 rows

HIGH-Q BREADBOARD - 640 HOLES SD10N



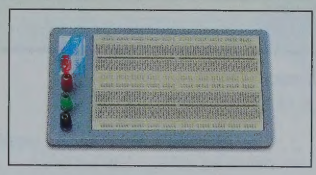
SPECIFICATIONS :
- material :
  - external body is made of ABS
  - the internal interconnected clips are made of an alloy of silver and nickel
- base socket : 1
- bus strip : 0
- tie points : 640
- 14-pins IC capacity : 9
- binding post : 0
- dimensions : 6.6" x 1.5" x 0.4"
- weight : 2.32oz
- jumper wire set : WJW70 (see p.73)

HIGH-Q BREADBOARD - 840 HOLES SD12N



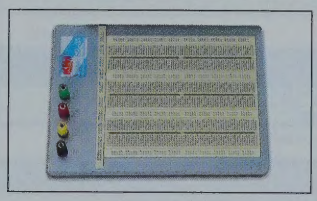
SPECIFICATIONS :
- material :
  - external body is made of ABS
  - the internal interconnected clips are made of an alloy of silver and nickel
- base socket : 1
- bus strip : 2
- tie points : 840
- 14-pins IC capacity : 9
- binding post : 0
- dimensions : 6.6" x 2.2" x 0.4"
- weight : 3.4oz
- jumper wire set : WJW70 (see p.73)

HIGH-Q BREADBOARD - 1680 HOLES SD24N



SPECIFICATIONS :
- material :
  - external body is made of ABS
  - the internal interconnected clips are made of an alloy of silver and nickel
- base socket : 2
- bus strip : 4
- tie points : 1680
- 14-pins IC capacity : 18
- binding post : 3
- dimensions : 8.7" x 5.0" x 0.7"
- weight : 10.3oz
- jumper wire set : WJW70 (see p.73)

HIGH-Q BREADBOARD - 2420 HOLES SD35N



SPECIFICATIONS :
- material :
  - external body is made of ABS
  - the internal interconnected clips are made of an alloy of silver and nickel
- base socket : 3
- bus strip : 5
- tie points : 2420
- 14-pins IC capacity : 27
- binding post : 4
- dimensions : 9.3" x 6.9" x 0.7"
- weight : 16.1oz
- jumper wire set : WJW70 (see p.73)

JUMPER WIRE SET

ASSORTED JUMPER WIRE SET (140pcs) WJW70

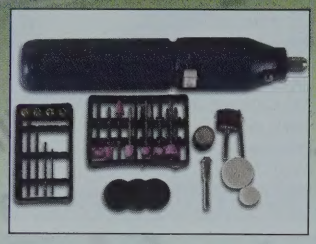
FEATURES :
- save time and enhance the lay-out of your PCBs
- comes in an attractive transparent box

SPECIFICATIONS :
- 14 different lengths, ranging from 0.14" to 4.92"
- 10 pieces each
- different colors

B

MINI DRILLS

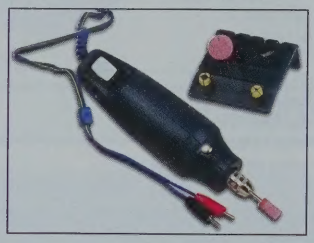
RECHARGEABLE DRILL WITH 34 ACCESSORIES — VTHD23BU



Features :
- contents :
  - rechargeable drill : 8000-12000rpm / with on-off switch
  - power supply : 1 pc (110V AC)
  - diamond-mounted points : 3 pcs
  - grindstones : 10 pcs
  - flat grindstones : 3 pcs
  - sanding rolls : 2 pcs with holder
  - polishing felts : 3 pcs with holder
  - drills : 5 pcs
- comes in a practical gray case

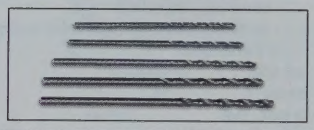
Specifications :
- power supply : DC 6V 150mA (adapter incl.)

ELECTRIC DRILL & GRINDER 9-18V - 1.5A — VTHD19N



Specifications :
- speed : 9000 to 18000 r/min.
- power supply : DC 9 to 18V
- drilling Ø : 0.03" to 0.12"
- supplied with 4 accessories

DRILL BITS



Specifications :
- for use with the VTHD series

part name	Ø	number
DRILL06N	0.024"	10 pcs
DRILL08N	0.031"	10 pcs
DRILL10N	0.039"	10 pcs
DRILL12N	0.047"	10 pcs
DRILL13N	0.051"	10 pcs

10 pc ASSORTED MINI DRILL BIT SET — DRILLSET1

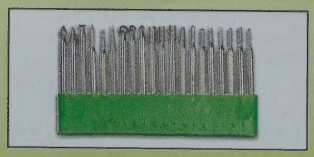
Features :
- packed in plastic box

Specifications :
- 10 drill bits : 0.024"/0.028"/0.031"/0.035"/0.039"/0.047"/0.059"/0.071"/0.079"/0.091"
- shaft thickness : 0.092" ″ 5%
- length : 1.79" ″ 5%

DRILL ACCESSORIES

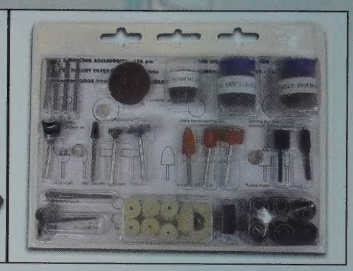
Specifications :
- for use with the VTHD series

20-PC DIAMOND-MOUNTED POINT SET — VTHDS2



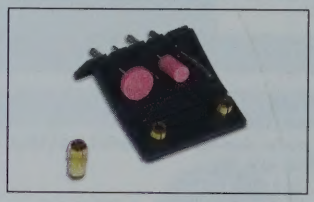
Specifications :
- different shapes
- 20pcs
- shaft Ø : 0.12"
- length : 1.8" max.

DRILL & GRINDER ACCESSORIES - 125 pcs — VTHDS4



Specifications :
- 125 pcs
- contains :
  - tool holders : 2 pcs
  - HSS rotary files : 2 pcs
  - fiberglass reinforcements (grit : 100# A) : 5 pcs
  - coarse sanding discs : 24 pcs
  - sanding discs : 60 pcs
    - thickness 0.02" : 36 pcs
    - thickness 0.03" : 24 pcs
  - cup brush : 1 pc
  - mounted points (grit : 100 #) : 16 pcs
    - including : GC, WA, A
  - rubber holders : 1/2x1/2, 1/4x1/2
  - wire brushes :
    - point : 1 pc
    - flat : 1 pc
  - polishing felt : 7 pcs
  - oilstone : 1 pc
  - polishing cloth
  - sanding drum :
    - grit : 80#
    - grit : 120#

DRILL & GRINDER ACCESSORIES — VTHDSN



Specifications :
- for : VTHD19N

MAGNIFYING LAMPS

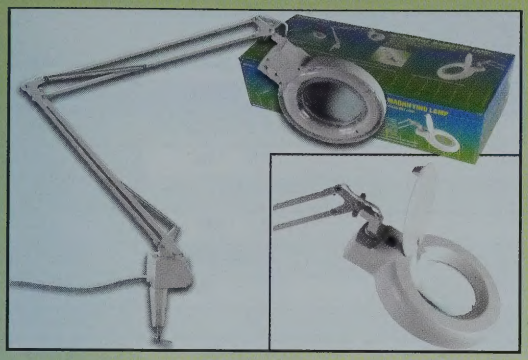
LAMP WITH MAGNIFYING GLASS - 22W BLACK — VTLAMP2U

This magnifying lamp was designed as an aid for all kinds of precision applications from health care to precision engineering. It's also ideal for home applications. It comes with a three-dioptre lens (1.75 x magnification). A well-balanced, universally jointed arm makes for maximum adjustment. Light is provided by a circular fluorescent tube of 22W that encircles the glass. Use the clamp to mount the device on a table.

Features :
- UL approved

Specifications :
- dimensions : - arm length : 41" - width : 9.5" - height : 2.4"
- color : black
- power supply : 115V AC

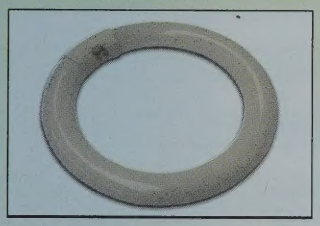
LAMP WITH MAGNIFYING GLASS - 22W OFF-WHITE — VTLAMP2WU



This magnifying lamp was designed as an aid for all kinds of precision applications from health care to precision engineering. It's also ideal for home applications. It comes with a three-dioptre lens (1.75x magnification). A well-balanced, universally jointed arm makes for maximum adjustment. Light is provided by a circular fluorescent tube of 22W that encircles the glass. Use the clamp to mount the device on a table.

SPECIFICATIONS :
- dimensions : - arm length : 41.3" - width : 9.4" - height : 2.4"
- color : off-white
- power supply : 110V AC

CIRCULAR FLUORESCENT TUBE 22W FOR VTLAMP2 — LAMP22U



FEATURES :
- for : VTLAMP2 or VTLAMP2W

SPECIFICATIONS :
- ratings : 22W

VISES, HOLDING PRODUCTS AND ACCESSORIES

VISE COMBINATIONS

VACUUM TABLE VISE WITH STANDARD HEAD — VTTV

Turns and rotates in all directions. 3.0" jaws with protective detachable pads. Opening 2.75". With vacuum base : easy to fix on all flat surfaces, can also be fixed with screws.

SPECIFICATIONS :
- spare rubbers for VTTV (2pcs) : VTTV/SR

TABLE VISE WITH STANDARD HEAD — VTTV2

Professional quality for this metal vise for table-screw mounting. Jaw opening 3.0". Rotates through 270±. Equipped with a fast fixing system.

SPECIFICATIONS :
- height : 12.0"
- weight : 3.5lb

MINI TABLE VISE WITH STANDARD HEAD — VTTV3

FEATURES :
- metal jaws with a max. opening of 1 1/2"
- rubber suction base
- ideal for precision work

SPECIFICATIONS :
- dimensions : 3.3" x 2.6" x 2.6"

MEASURING TOOLS

SCALES

MINI SCALES 150g / 0.1g — VTBAL1

FEATURES :
- stainless steel weighing platform and expansion tray
- push button calibration, tare and on/off
- protective hard shell and locking case design
- steel calibration weight included
- built-in scoop and tweezers

SPECIFICATIONS :
- capacity : 150g
- division : 0.1g
- tare range : 0 ~ 150g
- operation temperature : 0±C to +40±C
- power supply : 2 3.0V CR2032 lithium batteries (incl.)
- dimensions : 114 x 78 x 20 mm

TAPE RULES

STEEL TAPE RULE - 16.4ft — VTRM5

FEATURES :
- graduation in inch & cm
- lock button
- material : steel, rubber housing
- magnetic lip

SPECIFICATIONS :
- length : 16.4ft
- width : 0.7"

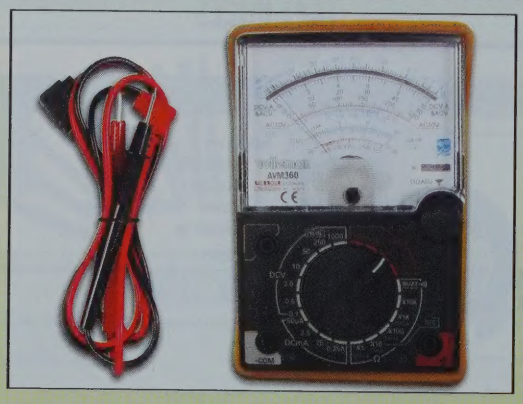
B

MULTIMETERS

ANALOG MULTIMETERS

part name	AVM360	AVM460
DC voltage	0.1/0.5/2.5/10/50/250/1000V	2.5/10/50/250/500V
basic accuracy	3 at FSD	″ 5%
input impedance	20Kohm/V	-
maximum input	1000V	500V
AC voltage	10/50/250/1000V	10/50/500V
basic accuracy	4 at FSD	″ 5%
input impedance	9Kohm/V	-
frequency range	+	-
maximum input	1000V	500V
DC current	50µ/2.5m/25m/0.25A	500µ/10m/250mA
basic accuracy	3 at FSD	″ 5%
overload protection	1.5A	-
basic accuracy	-	-
overload protection	-	-
resistance	x1/x10/x100/x1K/x10K	x1/x10
basic accuracy	3 at FSD	″ 5%
overload protection	1.5A	-
transistor test	hFE 0-1000 (with extra connector) / Iceo	-
diode test	yes, If and Ir	-
low battery sign	no	no
maximum display	analog	analog
LCD display size	-	-
ranging mode	manual	manual
data hold	no	no
backlight	no	no
dimensions	5.8" x 3.9" x 1.4"	4.7" x 2.4" x 1.2"
weight (with battery)	″ 9.9oz.	″ 4.4oz.
power supply	9V battery	1.5V AA battery
packing	box	blister
accessories	manual / test leads / battery	manual / test leads / battery
auto power-off	no	no

ANALOG MULTIMETER ▸▸ AVM360



FEATURES :

- DC and AC voltage measurements : up to 1000V
- DC current : 50µA to 0.25A
- resistance measurements
- two transistor tests : Iceo-test and hFE-measurements
- diode test : IR and IF measurements
- with dB-scale

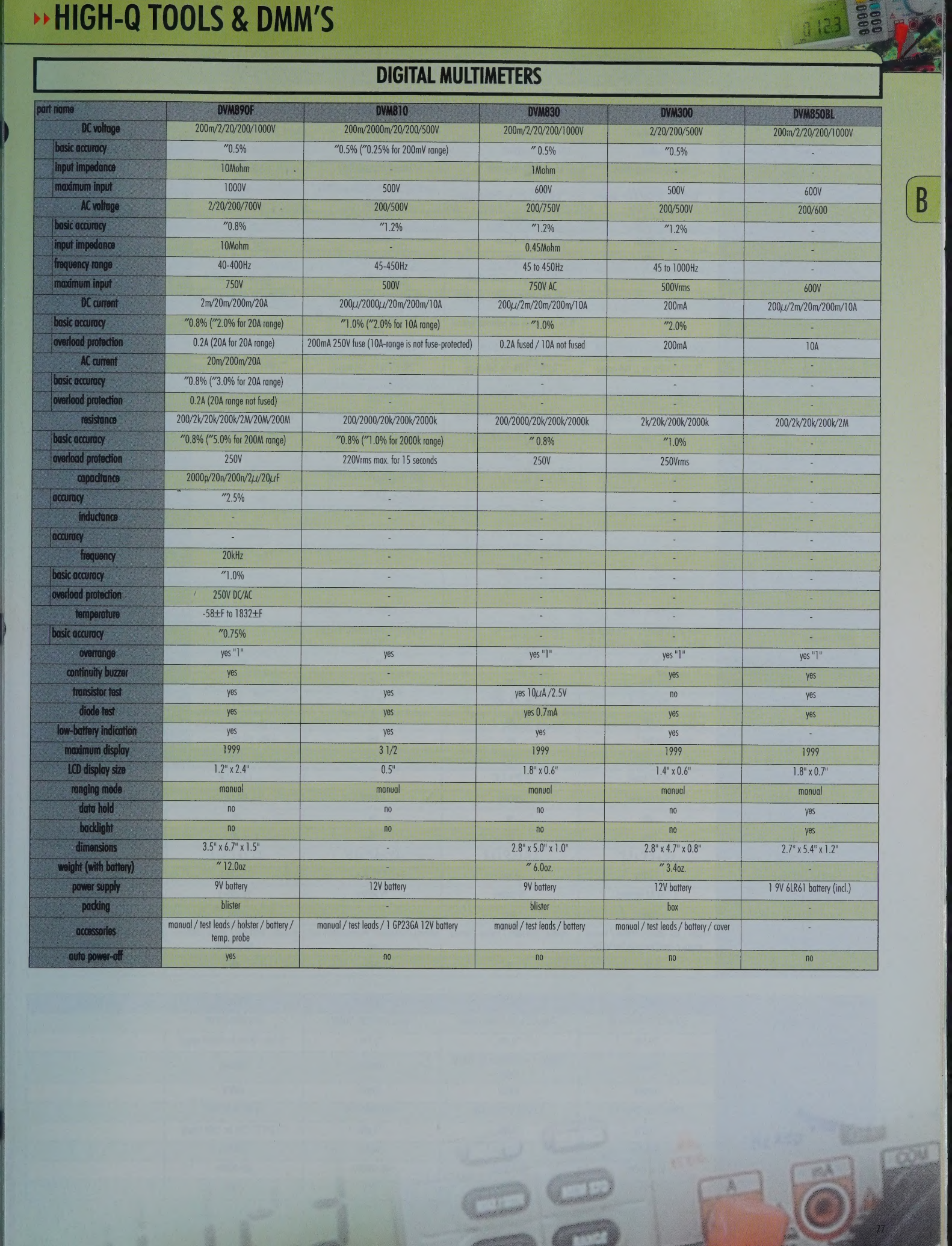
ANALOG MULTIMETER (WITH HOLSTER & BATTERY TEST) ▸▸ AVM460

FEATURES :

- 3-color scale display
- voltage (AC & DC) measurements : up to 500V
- resistance measurements : with ohm adjusting knob
- battery-check function
- fuse and diode protection
- 1 X AA-battery included
- comes with protection holster
- packaging : blister

DIGITAL MULTIMETERS

part name	DVM890F	DVM810	DVM830	DVM300	DVM850BL
DC voltage	200m/2/20/200/1000V	200m/2000m/20/200/500V	200m/2/20/200/1000V	2/20/200/500V	200m/2/20/200/1000V
basic accuracy	″0.5%	″0.5% (″0.25% for 200mV range)	″ 0.5%	″0.5%	-
input impedance	10Mohm	-	1Mohm	-	-
maximum input	1000V	500V	600V	500V	600V
AC voltage	2/20/200/700V	200/500V	200/750V	200/500V	200/600
basic accuracy	″0.8%	″1.2%	″1.2%	″1.2%	-
input impedance	10Mohm	-	0.45Mohm	-	-
frequency range	40-400Hz	45-450Hz	45 to 450Hz	45 to 1000Hz	-
maximum input	750V	500V	750V AC	500Vrms	600V
DC current	2m/20m/200m/20A	200µ/2000µ/20m/200m/10A	200µ/2m/20m/200m/10A	200mA	200µ/2m/20m/200m/10A
basic accuracy	″0.8% (″2.0% for 20A range)	″1.0% (″2.0% for 10A range)	″1.0%	″2.0%	-
overload protection	0.2A (20A for 20A range)	200mA 250V fuse (10A-range is not fuse-protected)	0.2A fused / 10A not fused	200mA	10A
AC current	20m/200m/20A	-	-	-	-
basic accuracy	″0.8% (″3.0% for 20A range)	-	-	-	-
overload protection	0.2A (20A range not fused)	-	-	-	-
resistance	200/2k/20k/200k/2M/20M/200M	200/2000/20k/200k/2000k	200/2000/20k/200k/2000k	2k/20k/200k/2000k	200/2k/20k/200k/2M
basic accuracy	″0.8% (″5.0% for 200M range)	″0.8% (″1.0% for 2000k range)	″ 0.8%	″1.0%	-
overload protection	250V	220Vrms max. for 15 seconds	250V	250Vrms	-
capacitance	2000p/20n/200n/2µ/20µF	-	-	-	-
accuracy	″2.5%	-	-	-	-
inductance	-	-	-	-	-
accuracy	-	-	-	-	-
frequency	20kHz	-	-	-	-
basic accuracy	″1.0%	-	-	-	-
overload protection	250V DC/AC	-	-	-	-
temperature	-58±F to 1832±F	-	-	-	-
basic accuracy	″0.75%	-	-	-	-
overrange	yes "1"	yes	yes "1"	yes "1"	yes "1"
continuity buzzer	yes	-	-	yes	yes
transistor test	yes	yes	yes 10µA/2.5V	no	yes
diode test	yes	yes	yes 0.7mA	yes	yes
low-battery indication	yes	yes	yes	yes	-
maximum display	1999	3 1/2	1999	1999	1999
LCD display size	1.2" x 2.4"	0.5"	1.8" x 0.6"	1.4" x 0.6"	1.8" x 0.7"
ranging mode	manual	manual	manual	manual	manual
data hold	no	no	no	no	yes
backlight	no	no	no	no	yes
dimensions	3.5" x 6.7" x 1.5"	-	2.8" x 5.0" x 1.0"	2.8" x 4.7" x 0.8"	2.7" x 5.4" x 1.2"
weight (with battery)	″ 12.0oz	-	″ 6.0oz.	″ 3.4oz.	-
power supply	9V battery	12V battery	9V battery	12V battery	1 9V 6LR61 battery (incl.)
packing	blister	-	blister	box	-
accessories	manual / test leads / holster / battery / temp. probe	manual / test leads / 1 GP23GA 12V battery	manual / test leads / battery	manual / test leads / battery / cover	-
auto power-off	yes	no	no	no	no

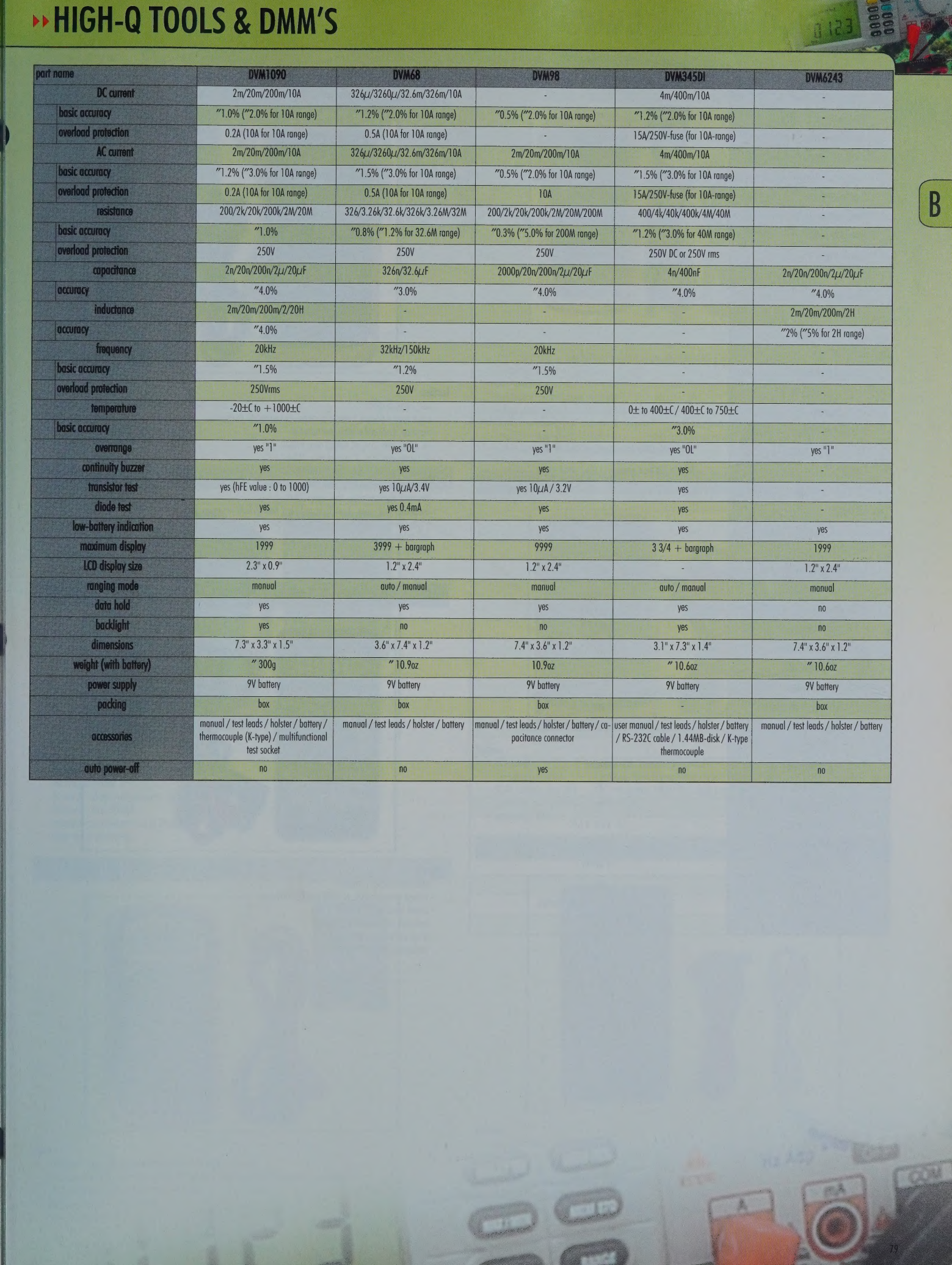


B

part name	DVM860BL	DVM92	DVM890L	DVM890C	DVM990BL
DC voltage	200m/2/20/200/600V	200m/2/20/200 /1000V	200m/2/20/200/1000V	200m/2/20/200/1000V	200m/2/20/200/1000V
basic accuracy	″0.7%	″0.5% (″0.8% for 1000V range)	″0.5% (″0.8% for 1000V range)	″0.5%	″ 0.5%
input impedance	10Mohm	10Mohm	10Mohm	10Mohm	10Mohm
maximum input	600V	1000V	1000V	1000V	1000V
AC voltage	200m/2/20/200/600V	2/20/200/750V	200m/2/10/200/700V	2/20/200/700V	200m/2/20/200/700V
basic accuracy	″0.8% (″1.0% for 600V range)	″0.8% (″1.2% for 750V range)	″0.8% (″1.2% for 200m and 700V range)	″0.8%	″1.2%
input impedance	10Mohm	10Mohm	10Mohm	10Mohm	10Mohm
frequency range	40-400Hz	40-400Hz	40-400Hz	40-400Hz	40-400Hz
maximum input	600V	750V	700Vrms or 1000V peak	750V	700V
DC current	-	200µ/2m/20m/200m/20A	2m/20m/200m/20A	2m/20m/200m/20A	2m/20m/200m/10A
basic accuracy	-	″0.8% (″2.0% for 20A range)	″0.8% (″2% for 20A range)	″0.8% (″2.0% for 20A range)	″1.0% (″2.0% for 10A range)
overload protection	-	0.2A (20A range not protected by fuse)	0.2A fuse (20A range not protected by fuse)	0.2A (20A for 20A range)	F1 (F 200mA/250V) for 2mA to 200mA range / F2 (F 10A/250V) for 10A range
AC current	200µ/2000µ/20m/200m/2/10A	2m/20m/200m/20A	20m/200m/20A	20m/200m/20A	2m/200m/10A
basic accuracy	″1.5% (″3.0% for 2/10A range)	″0.8% (″3.0% for 20A range)	″2% (″3% for 20A range)	″0.8% (″3.0% for 20A range)	″1.2% (″3.0% for 10A range)
overload protection	200mA (2/10A ranges unfused)	0.2A (20A range not protected by fuse)	0.2A fuse (20A range not protected by fuse)	0.2A (20A range not fused)	F1 (F 200mA/250V) for 2mA to 200mA range / F2 (F 10A/250V) for 10A range
resistance	200/2k/20k/200k/2M/20M	200/2k/20k/200k/2M/20M/200M	200/2k/20k/200k/2M/20M/200M	200/2k/20k/200k/2M/20M/200M	200/2k/20k/200k/2M/20M
basic accuracy	″1.0%	″0.8% (″1% for 20M range)	″0.8% (″5% for 200M range)	″0.8% (″5.0% for 200M range)	″1.0% (″5.0% for 200M range)
overload protection	250V	250V	-	250V	250V
capacitance	-	-	2000p/20n/200n/2µ/20µF	2000p/20n/200n/2µ/20µF	2n/20n/200n/2µ/20µF
accuracy	-	-	″ 2.5%	″ 2.5%	″4.0%
inductance	-	-	-	-	-
accuracy	-	-	-	-	-
frequency	-	-	-	20kHz	20kHz
basic accuracy	-	-	-	″ 1.0%	″1.5%
overload protection	-	-	-	250F DC/AC	250V
temperature	-20±C to +1000±C	-	-50±C-400±C/400±C-1000±C/0±C-40	-50±C to 1000±C	-20±C to 1000±C
basic accuracy	″5% (-20±C to 0±C) ; ″1% (0±C to 400±C) ; ″2% (400±C to 1000±C)	-	″0.75% (″1.5% between 400±C-1000±C)	″ 0.75%	″1.0%
overrange	yes "OL"	yes "1"	yes "1"	yes "1"	yes "1"
continuity buzzer	yes	yes	yes	yes	yes
transistor test	yes 2µA/1V	yes 10µA/3V	yes hFE	yes	no
diode test	yes	yes	yes	yes	yes
low-battery indication	yes	yes	yes	yes	yes
maximum display	1999 (3 1/2)	1999	1999	1999	1999 (3 1/2)
LCD display size	0.63" height	1.0" x 2.4"	-	1.2" x 2.4"	1.1"
ranging mode	auto / manual	manual	manual	manual	manual
data hold	yes	no	no	no	yes
backlight	yes	no	no	no	yes
dimensions	6.2" x 2.9" x 1.3"	3.3" x 6.5" x 1.3"	3.5" x 6.7" x 1.5"	3.5" x 6.7" x 1.5"	7.5" x 3.2" x 1.4"
weight (with battery)	″ 250g	8.8oz.	″ 12.0oz	″ 12.0oz	approx. 9.9oz
power supply	3 1.5V AA batteries	9V battery	9V battery	9V battery	9V-battery
packing	blister	box	-	box	-
accessories	manual / test leads / batteries / thermo-couple / multifunctional test socket	manual / test leads / holster / battery	manual / test leads / thermocouple / bat-tery	manual / test leads / holster / battery / temp. probe	manual / test leads / battery / K-type ther-mocouple
auto power-off	yes	no	yes	yes	no

part name	DVM1090	DVM68	DVM98	DVM345DI	DVM6243
DC voltage	200m/2/20/200/1000V	326m/3.26/32.6/326/1000V	200m/2/20/200 /1000V	4/40/400/1000V	-
basic accuracy	″0.5%	″0.3%	″0.1%	″0.5% (″0.8% for 1000V range)	-
input impedance	10Mohm	10Mohm (> 100Mohm for 326mV range)	10Mohm	10Mohm	-
maximum input	1000V	1000V	1000V	1000V	-
AC voltage	200m/2/20/200/700V	3.26/32.6/326/750V	2/20/200/750V	4/40/400/750V	-
basic accuracy	″1.0%	″0.8%	″0.6%	″1.2% (″1.5% for 750V range)	-
input impedance	10Mohm	10Mohm	2Mohm	10Mohm	-
frequency range	40 to 400Hz	40-1000Hz	40-1000Hz	40-400Hz	-
maximum input	700Vrms	750V	700V	750V	-

part name	DVM1090	DVM68	DVM98	DVM345DI	DVM6243
DC current	2m/20m/200m/10A	326µ/3260µ/32.6m/326m/10A	-	4m/400m/10A	-
basic accuracy	″1.0% (″2.0% for 10A range)	″1.2% (″2.0% for 10A range)	″0.5% (″2.0% for 10A range)	″1.2% (″2.0% for 10A range)	-
overload protection	0.2A (10A for 10A range)	0.5A (10A for 10A range)	-	15A/250V-fuse (for 10A-range)	-
AC current	2m/20m/200m/10A	326µ/3260µ/32.6m/326m/10A	2m/20m/200m/10A	4m/400m/10A	-
basic accuracy	″1.2% (″3.0% for 10A range)	″1.5% (″3.0% for 10A range)	″0.5% (″2.0% for 10A range)	″1.5% (″3.0% for 10A range)	-
overload protection	0.2A (10A for 10A range)	0.5A (10A for 10A range)	10A	15A/250V-fuse (for 10A-range)	-
resistance	200/2k/20k/200k/2M/20M	326/3.26k/32.6k/326k/3.26M/32M	200/2k/20k/200k/2M/20M/200M	400/4k/40k/400k/4M/40M	-
basic accuracy	″1.0%	″0.8% (″1.2% for 32.6M range)	″0.3% (″5.0% for 200M range)	″1.2% (″3.0% for 40M range)	-
overload protection	250V	250V	250V	250V DC or 250V rms	-
capacitance	2n/20n/200n/2µ/20µF	326n/32.6µF	2000p/20n/200n/2µ/20µF	4n/400nF	2n/20n/200n/2µ/20µF
accuracy	″4.0%	″3.0%	″4.0%	″4.0%	″4.0%
inductance	2m/20m/200m/2/20H	-	-	-	2m/20m/200m/2H
accuracy	″4.0%	-	-	-	″2% (″5% for 2H range)
frequency	20kHz	32kHz/150kHz	20kHz	-	-
basic accuracy	″1.5%	″1.2%	″1.5%	-	-
overload protection	250Vrms	250V	250V	-	-
temperature	-20±C to +1000±C	-	-	0± to 400±C / 400±C to 750±C	-
basic accuracy	″1.0%	-	-	″3.0%	-
overrange	yes "1"	yes "OL"	yes "1"	yes "OL"	yes "1"
continuity buzzer	yes	yes	yes	yes	-
transistor test	yes (hFE value : 0 to 1000)	yes 10µA/3.4V	yes 10µA / 3.2V	yes	-
diode test	yes	yes 0.4mA	yes	yes	-
low-battery indication	yes	yes	yes	yes	yes
maximum display	1999	3999 + bargraph	9999	3 3/4 + bargraph	1999
LCD display size	2.3" x 0.9"	1.2" x 2.4"	1.2" x 2.4"	-	1.2" x 2.4"
ranging mode	manual	auto / manual	manual	auto / manual	manual
data hold	yes	yes	yes	yes	no
backlight	yes	no	no	yes	no
dimensions	7.3" x 3.3" x 1.5"	3.6" x 7.4" x 1.2"	7.4" x 3.6" x 1.2"	3.1" x 7.3" x 1.4"	7.4" x 3.6" x 1.2"
weight (with battery)	″ 300g	″ 10.9oz	10.9oz	″ 10.6oz	″ 10.6oz
power supply	9V battery	9V battery	9V battery	9V battery	9V battery
packing	box	box	box	-	box
accessories	manual / test leads / holster / battery / thermocouple (K-type) / multifunctional test socket	manual / test leads / holster / battery	manual / test leads / holster / battery / capacitance connector	user manual / test leads / holster / battery / RS-232C cable / 1.44MB-disk / K-type thermocouple	manual / test leads / holster / battery
auto power-off	no	no	yes	no	no



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part name	DVM6013
DC voltage	-
basic accuracy	-
input impedance	-
maximum input	-
AC voltage	-
basic accuracy	-
input impedance	-
frequency range	-
maximum input	-
DC current	-
basic accuracy	-
overload protection	-
AC current	-
basic accuracy	-
overload protection	-
resistance	-
basic accuracy	-
overload protection	-
capacitance	200p/2n/20n/200n/2µ/20µ/200µ/2000µ/20mF
accuracy	″ 0.5% (2000µF range : ″ 1.0% / 20mF range : ″ 2.0%)
inductance	-
accuracy	-
frequency	-
basic accuracy	-
overload protection	-
temperature	-
basic accuracy	-
overrange	yes "1"
continuity buzzer	-
transistor test	-
diode test	-
low-battery indication	yes
maximum display	1999
LCD display size	-
ranging mode	manual
data hold	no
backlight	no
dimensions	1.2" x 3.6" x 7.4"
weight (with battery)	8.5oz
power supply	9V battery
packing	box
accessories	manual / test leads / holster / battery
auto power-off	no

3 ½ DMM - 30 RANGES / 10A / TEMPERATURE IN FAHRENHEIT / CAPACITANCE / FREQUENCY

DVM890F

FEATURES :

- very complete model
- low-battery indication, overload protection and automatic deactivation
- transistor, diode and audible continuity test
- DC current max. 20A, DC voltage max. 1000V
- AC current max. 20A, AC voltage max. 700V
- resistance measurements : up to 20Mohm
- capacitance measurements : from 2000pF to 20µF
- frequency measurements : max. range 20kHz
- temperature test range : from 32±F to 104±F through built-in sensor
- K-type thermocouple measuring range : from -58±F to 1832±F
- with holster
- packaging : blister

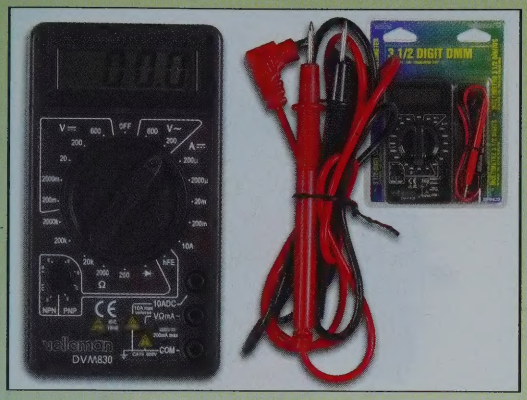
MINI 3 1/2 DIGIT DMM - 19 RANGES

DVM810

FEATURES :

- automatic polarity indication
- voltage measurements : AC 500V and DC 500V max.
- current measurements : DC 10A max.
- resistance measurements : 2Mohm
- diode and transistor (hFE) test
- packaging : blister

VELLEMAN 3 1/2 DIGIT DMM - 20 RANGES - 10A - TRANSISTOR TEST ▸▸ DVM830



FEATURES :
- automatic polarity function
- low-battery indication
- transistor and diode test
- voltage measurements : AC 750V and DC 1000V max.
- current measurements : max. 10A
- resistance measurements : 2Mohm max.
- packaging : blister

3 1/2 DIGITAL MULTIMETER - POCKET MODEL ▸▸ DVM300

FEATURES :
- automatic polarity indication
- fits into your pocket
- DC and AC voltage measurements : up to 500V
- DC current : max. 200mA
- resistance measurements : up to 2Mohm
- diode and continuity test

3 1/2 DMM - 10A / HOLD FUNCTION / BACKLIGHT ▸▸ DVM850BL

FEATURES :
- DMM with automatic polarity function and 3 ½ digit LCD display
- measurements : DC current up to 10A, AC and DC voltage up to 600V, resistance up to 2Mohm
- diode, transistor and continuity test with buzzer
- data-hold function and backlight
- with protection holster

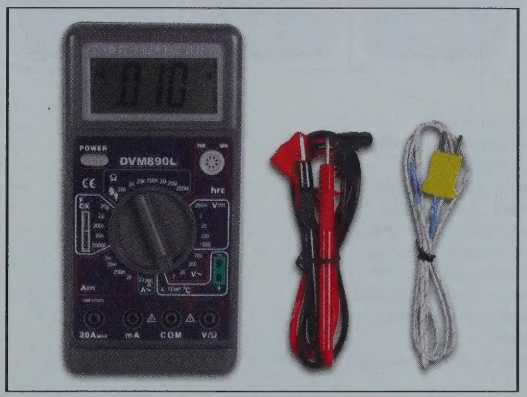
3 1/2 DMM-AUTORANGE, WITH BATTERY TESTER ▸▸ DVM860BL

FEATURES :
- 3 1/2 LCD display with backlight and automatic polarity indication
- low-battery indication
- data-hold function
- automatic or manual range selection
- voltage measurements : AC 600V and DC 600V max.
- current measurements : AC 10A and DC 10A max. - current measurements with optional clamp AC97 () : AC 2000A max.
- resistance measurements : 20Mohm max. - temperature measurements : -20±C ~ 1000±C
- with battery test - transistor, diode and continuity test

3 1/2 DMM - 23 RANGES / 20A ▸▸ DVM92

FEATURES :
- basic model
- low-battery indication
- DC/AC current : max. 20A
- resistance : max. 20Mohm
- packaging : blister
- LCD display : character height 0.8"
- transistor, diode and audible continuity test
- DC voltage max. 1000V, AC voltage max. 750V
- with holster

3 1/2 DMM - 29 RANGES / 20A / TEMPERATURE / CAPACITANCE - LOW-COST ▸▸ DVM890L



FEATURES :
- low-cost model - low-battery indication
- overload protection and auto power-off function
- transistor, diode and audible continuity test
- current measurements : DC (max. 1000V) and AC (max. 700V)
- capacitance measurements : 2000pF to 20μF
- temperature test range : from 0 to 40±C through built-in sensor (-50±C to 1000±C with K-type thermocouple)

B

3 1/2 DMM - 30 RANGES / 20A / TEMPERATURE IN CELSIUS / CAPACITANCE / FREQUENCY

DVM890C

FEATURES :

- very complete model
- low-battery indication, overload protection and automatic deactivation
- transistor, diode and audible continuity test
- DC current max. 20A, DC voltage max. 1000V
- AC current max. 20A, AC voltage max. 700V
- resistance measurements : up to 20Mohm
- capacitance measurements : from 2000pF to 20µF
- frequency measurements : max. range 20kHz
- temperature test range : from 0±C to 40±C through built-in sensor
- K-type thermocouple measuring range : from -50±C to 1000±C
- with holster
- packaging : blister

3 1/2-DIGIT DMM - 10A / TEMPERATURE / CAPACITANCE / FREQUENCY

DVM1090

FEATURES :

- 39 measuring ranges
- low-battery indication and overload protection
- transistor, diode and audible continuity test
- DC current max. 10A, DC voltage max. 1000V
- AC current max. 10A, AC voltage max. 700V
- resistance measurements : up to 20Mohm
- capacitance measurements : from 2n to 20µF
- inductance measurements : 2m to 20H
- frequency measurements : max. 20kHz
- temperature test range : from -20±C to 1000±C
- with TTL logic test function
- with holster
- packaging : box

3 1/2 DIGITAL MULTIMETER WITH PLUG-IN PROTECTION

DVM990BL

FEATURES :

- big LC display with backlight
- low-battery indication, overload protection
- diode and audible continuity test
- DC current max. 10A, DC voltage max. 1000V
- AC current max. 10A, AC voltage max. 700V
- resistance measurements : max. 20Mohm
- capacitance measurements : max. 20µF
- frequency measurements : max. 20kHz
- temperature test range : -20±C to 1000±C
- with backlight and data-hold function
- holster included
- plug-in protection : the corresponding input is opened for each selected range

3 3/4 DMM WITH AUTORANGE FUNCTION / BARGRAPH / FREQUENCY

DVM68

FEATURES :

- professional model
- DMM with 3¾ digit LCD display and automatic polarity indication
- bargraph annunciators, low-battery indication and overload protection
- auto / manual ranging with data-hold function
- transistor, diode and continuity test
- DC current max.10A, DC voltage max. 1000V
- AC current max.10A, AC voltage max. 700V
- resistance measurements : max. 32.6Mohm
- capacitance measurements : max. 32.6µF
- frequency measurements : max. 150kHz
- with holster

4 1/2 DIGIT TRUE RMS DMM ▸▸ DVM98

FEATURES :

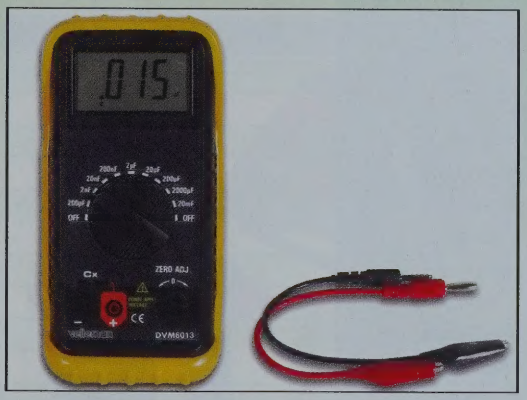
- true RMS digital multimeter with 4 ½ LCD display
- 10 different functions and 32 ranges
- data-hold function
- DC and AC voltage measurements (1000V DC, 700V AC rms)
- DC and AC current measurements (max. 10A)
- resistance (max. 200Mohm) and continuity measurements
- diode and transistor tests
- capacity measurements : up to 20µF
- frequency measurements : up to 20kHz
- with holster

3 1/2-DIGIT LC BRIDGE ▸▸ DVM6243

FEATURES :

- digital LC meter with 3 ½ LCD display and figure height 0.8"
- capacity measurements : 6 ranges from 1pF to 200µF
- induction measurements : 4 ranges from 1µH to 2H
- automatic zero indication : high measuring accuracy
- with holster

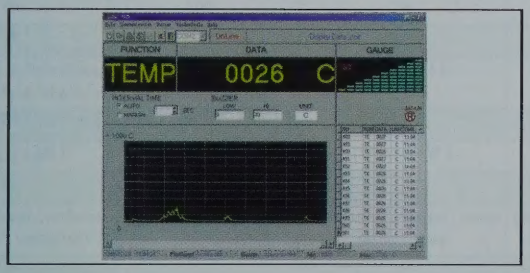
3 1/2-DIGIT DIGITAL CAPACITANCE METER ▸▸ DVM6013



FEATURES :

- digital capacitance meter with 3 ½ LCD display and figure height 0.8"
- capacity measurements : 9 ranges from 0.1pF to 20mF
- with zero adjuster
- comes with holster

INTELLIGENT DIGITAL MULTIMETER WITH DATA HOLD, BACKLIGHT AND RS-232 OUTPUT ▸▸ DVM345DI



FEATURES :

- 3 ¾ LCD display with automatic polarity indication
- 38-segment bargraph
- automatic or manual range selection
- data-hold function
- continuity test
- RS232C standard interface for PC connection
- backlight
- ACV (max. 750V) and DCV (max. 1000V) measurements
- DCA and ACA current measurements : max. 10A
- resistance measurements : up to 40Mohm
- capacitance measurements : up to 400nF
- temperature measurements : 0±C to 750±C
- hFE-test : 1 to 1000
- diode test
- comes with holster, software and cables

B

CLAMP METERS

part name	AC97	DCM265	DCM266L	DCM267	DCM268	DCM97K
DC voltage	-	600V	1000V	2/20/200/1000V	3/30/300/1000V	300m/3/30/300/600V
basic accuracy	-	″1.0%	″ 0.8%	″0.5% (″1.0% for 1000V range)	″0.8%	0.7%
input impedance	-	10Mohm	> 9Mohm	10Mohm	-	10Mohm
maximum input	-	600V	1000V	1000V	1000V	600V
AC voltage	-	600V	750V	200/750V	3/30/300/1000V	3/30/300/600V
basic accuracy	-	″1.5%	″1.0%	″1.0%	″1.0%	″8%
input impedance	-	10Mohm	> 9Mohm	10Mohm	-	10Mohm
frequency range	-	40-400Hz	-	40-400Hz	-	40-400Hz
maximum input	-	600V	750V	750V	-	600V
DC current	-	-	-	-	300/600A	-
basic accuracy	-	-	-	-	″3.0%	-
overload protection	-	-	-	-	-	-
AC current	0.1 to 300A	2/20/200A	200/1000A	200/1000A	300/1000A	300A with transducer
basic accuracy	″3.0%	″2.0%	″2.0%	″2.0%	-	-
overload protection	-	-	1200A for 60 seconds	1200A for max. 60 seconds	-	-
resistance	-	2k	200/20k (insulation test : 20M/2000M)	200/20k/2M	300/3k/30k/300k/3M/30Mohm	300/3k/30k/300k/3M/30M
basic accuracy	-	″1.0%	″1.0% (″2.0% for insulation test)	″1.5% (″1.0% for 200 range)	″1.5%	″1.2%
overload protection	-	250V	500V	-	-	250V
capacitance	-	-	-	-	-	-
accuracy	-	-	-	-	-	-
inductance	-	-	-	-	-	-
accuracy	-	-	-	-	-	-
frequency	-	-	-	2k/20k	30kHz	-
basic accuracy	-	-	-	″1.5% (″2.0% for 2k range)	″2.0%	-
overload protection	-	-	-	-	-	-
temperature	-	-	-	0±C-750±C	-	-
basic accuracy	-	-	-	″1.0% (″2.0% for 400±C to 750±C)	-	-
overrange	-	yes "1"	yes "1"	yes "1"	-	yes "OL"
continuity buzzer	-	yes	yes	yes	yes	yes
transistor test	-	-	-	-	no	-
diode test	-	-	-	yes	yes	yes
low-battery indication	-	yes	yes "BAT"	yes	-	yes
maximum display	-	1999	3 1/2	1999	3200 counts + bargraph	3200
LCD display size	-	-	-	-	-	1.5" x 0.8"
ranging mode	-	manual	manual	manual	auto / manual	manual
data hold	-	yes	yes	yes	yes	yes
backlight	-	yes	no	yes	yes	no
dimensions	3.1" x 6.1" x 1.4"	7.6" x 2.8" x 1.4"	9.1" x 1.5" x 3.5"	11.1" x 4.1" x 1.9"	11.1" x 4.1" x 1.9"	2.0" x 5.8" x 1.3" (body) / 3.1" x 4.0" x 1.4" (transducer)
weight (with battery)	″ 7.8oz	7.1oz	″ 11.3oz	″ 17.6oz	″ 17.6oz	3.5oz (body) / 4.4oz (transducer)
power supply	-	3 3V CR2032 batteries (incl.)	9V battery	1 9V battery (incl.)	1 9V battery	2 AAA 1.5V batteries
packing	box	box	-	-	-	case
accessories	manual / carrying case	manual / test leads / battery / carrying bag	manual / test leads / battery / carrying bag	manual / test leads / thermocouple / battery / gift box	-	transducer / manual / test leads / 2 test probes / 1 crocodile clip
auto power-off	-	no	no	no	-	no

MODULAR AC CURRENT TRANSDUCER ▸▸ AC97

This current transducer can be mounted on almost any digital multimeter. An induction coil transforms the current (0.1 to 300A AC) into a small voltage (1mV AC per 0.1A AC) on the output pins.

FEATURES :

- max. jaw opening : 1.2"

DIGITAL CLAMP MULTIMETER WITH DATA-HOLD AND BACKLIGHT ▸▸ DCM265

FEATURES :

- digital clamp meter
- 3 ½ LCD display with automatic polarity indication
- data-hold and backlight function
- AC current measurements : max. 200A (via transformer jaws)
- AC voltage (max. 600V) and DC voltage (max. 600V) measurements
- resistance measurements : max. 2Kohm
- with carrying bag

ECONOMIC DIGITAL CLAMP METER ▸▸ DCM266L

FEATURES :

- digital clamp meter
- 3 1/2 LCD display with automatic polarity indication
- data-hold function
- AC current measurements : max. 1000A
- insulation test : max. 2000Mohm
- voltage measurements : AC (max. 750V) and DC (max. 1000V)
- resistance measurements : max. 20Kohm
- with carrying bag

DIGITAL CLAMP METER WITH TEMPERATURE PROBE ▸▸ DCM267

FEATURES :

- LCD display with automatic polarity indication
- data-hold function
- DCV (max. 1000V) and ACV (max. 750V) measurements
- ACA (max. 1000A) current measurements
- max. Ø for conductor : 2.0"
- resistance measurements : max. 2Mohm
- frequency measurements : max. 20kHz
- temperature measurements : 0±C to 750±C
- diode test, continuity test and backlight

B

DIGITAL CLAMP METER ACA & DCA

DCM268

FEATURES :

- display : digital and analog display, 3200 counts and 33-segment bargraph, digit height 0.6"
- data-hold function
- DCV (max. 1000V) and ACV (max. 750V) measurements
- ACA and DCA (max. 1000A) current measurements
- max. Ø for conductor : 2.0"
- resistance measurements : max. 30Mohm
- frequency measurements : max. 30kHz
- diode & continuity test and backlight

MODULAR CLAMP METER (DMM + TRANSDUCER)

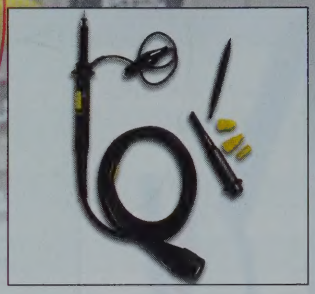
DCM97K

FEATURES :

- LCD display with automatic polarity indication and bargraph
- detachable transducer head
- DC and AC voltage measurements : max. 600V
- resistance measurements : max. 30 Mohm
- diode and audible continuity test
- with 2 extra test probes, 1 extra test lead and 1 extra test clip
- with practical carrying case

INSULATED SCOPE PROBE 60MHz

PROBE60S



FEATURES :

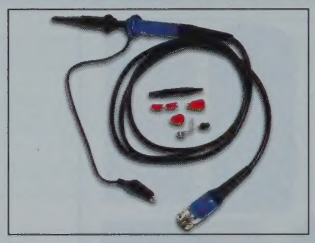
- complete probe set
- insulated for hand-held equipment - IEC1010
- attenuation : 1:1 or 1:10

SPECIFICATIONS :

- position x1 :
  - attenuation : 1:1
  - bandwidth : DC to 15MHz
  - rise time : 2.7ns
  - input resistance : 1Mohm (input resistance scope)
  - input capacitance : 46pF + cap. scope
  - working voltage : 600V DC incl. peak AC derating with frequency
  - position REF : -
- position x10 :
  - attenuation : 1:10
  - bandwidth : DC to 60MHz
  - rise time : 5.5ns
  - input resistance : 10Mohm (if scope input = 1Mohm)
  - input capacitance : 18pF approx.
  - working voltage : 600V DC incl. peak AC derating with frequency
  - compensation range : 10 to 35pF
- cable length : 4.6ft
- remarks : with insulated BNC connector

OSCILLOSCOPE PROBE 100MHz

PROBE100



FEATURES :

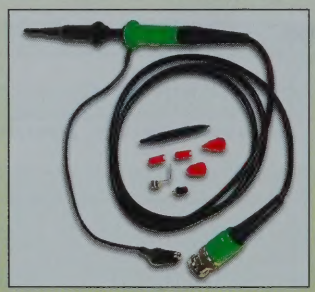
- complete probe set, for measurements up to 100MHz
- attenuation : 1:1 or 1:10

SPECIFICATIONS :

- position x1 :
  - attenuation : 1:1
  - bandwidth : DC to 60MHz
  - rise time : 5.8ns
  - input resistance : 1Mohm (input resistance scope)
  - input capacitance : 90pF + cap. scope
  - working voltage : 600V DC incl. peak AC derating with frequency
  - position REF : tip disconnected, scope input at ground
- position x10 :
  - attenuation : 1:10
  - bandwidth : DC to 100MHz
  - rise time : 2.8ns
  - input resistance : 10Mohm (if scope input = 1Mohm)
  - input capacitance : 16pF approx.
  - working voltage : 600V DC incl. peak AC derating with frequency
  - compensation range : 10 to 35pF
- cable length : 4.6ft

OSCILLOSCOPE PROBE 150MHz

PROBE150



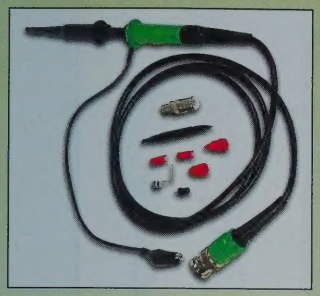
FEATURES :

- complete probe set, for measurements up to 150MHz
- attenuation : 1:1 or 1:10

SPECIFICATIONS :

- position x1 :
  - attenuation : 1:1
  - bandwidth : DC to 60MHz
  - rise time : 5.8ns
  - input resistance : 1Mohm (input resistance scope)
  - input capacitance : 90pF + cap. scope
  - working voltage : 600V DC incl. peak AC derating with frequency
  - position REF : tip disconnected, scope input at ground
- position x10 :
  - attenuation : 1:10
  - bandwidth : DC to 150MHz
  - rise time : 1.4ns
  - input resistance : 10Mohm (if scope input = 1Mohm)
  - input capacitance : 15pF approx.
  - working voltage : 600V DC incl. peak AC derating with frequency
  - compensation range : 10 to 35pF
- cable length : 3.9ft

OSCILLOSCOPE PROBE 250MHz (HP9250) ▸▸ PROBE250



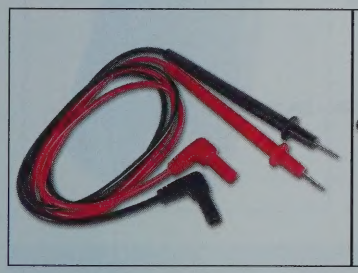
FEATURES :
- complete probe set, for measurements up to 250MHz
- attenuation : 1:1 or 1:10

SPECIFICATIONS :
- position x1 :
  - attenuation : 1:1
  - bandwidth : DC to 60MHz
  - rise time : 5.8ns
  - input resistance : 1Mohm (input resistance scope)
  - input capacitance : 90pF + cap. scope
  - working voltage : 600Vdc incl. peak AC derating with frequency
  - position REF : tip disconnected, scope input at ground
- position x10 :
  - attenuation : 1:10
  - bandwidth : DC to 250MHz
  - rise time : 1.4ns
  - input resistance : 10Mohm (if scope input = 1Mohm)
  - input capacitance : 14pF approx.
  - working voltage : 600Vdc incl. peak AC derating with frequency
  - compensation range : 10 to 35pF
- cable length : 1.2m

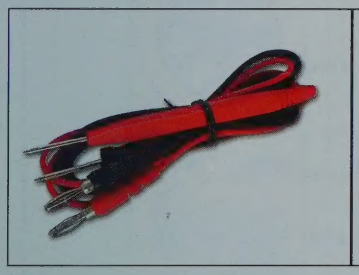
COAX CABLES AND TEST LEADS

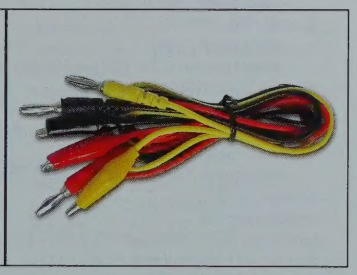
TEST LEADS

part name	contents	ratings	length	remark
TLM1	2 test leads with protection caps	1000V / 15A	30" / 37"	IEC1010 CLASS II protection
TLM10	4 crocodile clips / 4 x 0.16" pins / 2 x 0.08" pins / 2 forks	-	35"	blister
TLM2	2 test leads (with banana plug) 0.16"	-	39.4"	-
TLM3	3 test leads (banana plug 0.16" / booted crocodile plug)	0.5A	35.4", overall Ø : 0.11", wire : 16 x 0.0039"	-
TLM4	2 test leads (2 hook banana plugs) 0.16"	-	35.4"	-
TLM6	2 test leads pins	-	4.9"	soldertype

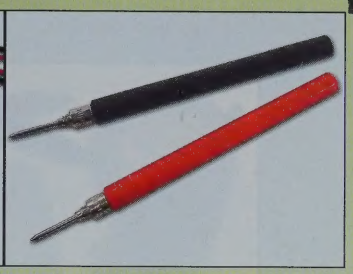


part name TLM1 part name TLM10





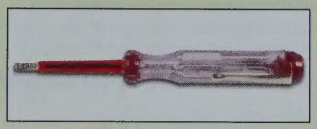
part name TLM2 part name TLM3



part name TLM4 part name TLM6

VOLTAGE TESTERS

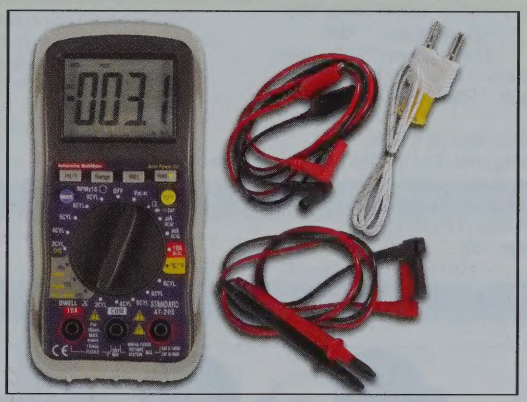
VOLTAGE TEST SCREWDRIVER WITH INDICATION THROUGH NEON LAMP ▸▸ VTTEST10



SPECIFICATIONS :
- voltages : 100 to 250Vac
- tip & blade : 0.14" x 2.0"

SPECIAL METERS

4-DIGIT AUTOMOTIVE DMM - 44 RANGES - 10A/FREQUENCY/RPM/DWELL ▸▸ DVM205AM



FEATURES :
- auto/manual range selection
- auto power off
- data hold + relative function
- backlight
- overload protection on all ranges
- : diode / continuity test

SPECIFICATIONS :
- RPM : 500-9999rpm (2cyl/dis/4/5/6/8)
- dwell angle : 2cyl/dis-0-180±/8cyl-0-45±
- AC voltage : 400mV ~ 750V AC
- DC voltage : 400mV ~ 1000V DC
- AC current : 400µA ~ 10A
- DC current : 400µA ~ 10A
- resistance : 400 ohm ~ 40Mohm
- capacitance : 10nF ~ 100µF
- frequency : 9.999Hz ~ 9.999MHz
- duty cycle : 0.1% ~ 99.9%
- period : 2.0 ~ 20.0ms
- pulse width : 2.0 ~ 10.0ms
- temperature : -20±C ~ +760±C (-4±F ~ +1400±F)
- power supply : 1 x 9V battery (incl.)

B

CABLE TRACKER WITH TONE GENERATOR ▸▸ VTTEST11

FEATURES :
- network tester : consists of a tone generator and a probe
- method : use the tone generator and the probe to determine where a cable is going and whether or not (and where) the cable is interrupted
- signal viewing in 3 modes : lamp (L), speaker (SP) or both (S&L)
- tone generator output (square waveform) : single (900Hz) or dual (900 - 1000Hz)
- comes with : soft carrying bag

SPECIFICATIONS :
- tone generator :
  - working voltage : DC 9V ″15%
  - working current : 10mA (intermittent tone) / 20mA (continuous tone)
  - output wave form : square wave signals ″10Vpp
    - single audio frequency : ″ 900Hz
    - dual audio frequency : ″ 900Hz - 1000Hz
  - dimensions : 4.5" x 2.4" x 1.1"x
  - weight : ″ 130g
- probe :
  - working voltage : DC 9V ″15%
  - working current : 25mA (L) / 80mA (max. SP volume) / 100mA (max S&L volume)
  - max. reception sensitivity : > 30mV
  - maximum output volume : ″120dB
  - dimensions : 8.1" x 1.6" x 1.5"
  - weight : ″80g

3 1/2-DIGIT 4-IN-1 DMM ▸▸ DVM401

FEATURES :
- display : large 3 1/2-digit LCD displays Lux, ±C, ±F, %RH, dB-A, dB-C, dB-low and dB-high
- auto power off
- data hold and maximum hold
- comes with : 9V-battery and "K-type" temperature probe, humidity probe, photo detector and carrying bag

SPECIFICATIONS :
- luxmeter :
  - ranges : 20.00, 200.0, 2000, 20000Lux (x10 Lux)
  - resolution : 0.1Lux
- temperature measurement :
  - ranges : -20.0±C ~ 200.0±C, -4.0±F ~ 200.0±F, -20±C ~ 750±C, -4±F ~ 1400±F
  - resolution : 0.1±C / 0.1±F
- humidity meter :
  - range : 25% ~ 95% RH
  - resolution : 0.1% RH
- sound level meter :
  - ranges : Lo = 35 ~ 100dB, Hi = 65 ~ 130dB (frequency weighting : A, C)
  - resolution : 0.1dB
- power supply : 9V-battery (incl.)
- dimensions :
  - unit : 9.9" x 2.5" x 1.3"
  - photo detector : 4.5" x 2.4" x 1.1"
- weight :
  - unit : 11.6 oz.
  - photo detector : 2.8 oz.

3 1/2-DIGIT DMM - 20 RANGES - 10A - SOUND LEVEL / LIGHT / HUMIDITY / TEMPERATURE ▸▸ DVM501

FEATURES :
- automatic polarity function
- low-battery indication
- transistor and diode test
- voltage measurements : AC 750V and DC 1000V max.
- current measurements : max. 10A
- resistance measurements : 2Mohm max.
- sound level measurements : 35-100dB
  - resolution : 0.1dB
  - typ. instrument frequency : 30Hz to 10kHz
  - frequency weighting : C
  - accuracy : ″ 3.5dB at 94dB sound level (1kHz sine wave)
  - microphone : electric condenser
- light measurements : up to 20000lux
  - accuracy : ″5%
  - temperature characteristics : ″0.1%/±C
  - photodiode : 1 silicon photo-diode with filter
- humidity measurements : 25%~95% RH
  - resolution : 0.1% RH
  - accuracy : ″5% RH (35%~95% RH) / ″6% RH (10%~35% RH)
- temperature measurements : -20±C to +1300±C

SPECIFICATIONS :
- DC voltage : 200m/20/600V
  - basic accuracy : ″0.5%
  - input impedance : 1Mohm
  - maximum input : 600V
- AC voltage : 200/600V
  - basic accuracy : ″1.2%
  - input impedance : 1Mohm
  - frequency range : 45 to 450Hz
  - maximum input : 600V AC
- DC current : 200μ/200m/10A
  - basic accuracy : ″1.0%
  - overload protection : 0.2A / 250V fuse (10A range not fused)
- resistance : 200/2k/200k/1M
  - basic accuracy : ″0.8%
  - overload protection : 15 seconds max. 250V on all ranges
- temperature : -20±C to +1300±C
  - basic accuracy : ″3% (-20±C to +200±C) / ″3.5% (-20±C to +1300±C)
- overrange : yes "OL"
- continuity buzzer : yes
- transistor test : yes 0~1000 (approx. 10μA DC at Vcd=2.8V DC)
- diode test : yes 1.4mA (open circuit voltage = 2.8V DC)
- low-battery indication : yes "BAT"
- maximum display : 1999
- ranging mode : manual
- data hold : no
- backlight : no
- dimensions : 4.8" x 2.4" x 1.6"
- weight (with battery) : approx. 9.9oz (incl. holster)
- power supply : 9V battery
- packing : blister
- accessories : manual / test leads / battery
- auto power-off : no

DUAL-CHANNEL DIGITAL THERMOMETER — DVM1322

FEATURES :
- 3 ½-digit LCD
- designed for use with an external K-type thermocouple
- data-hold function
- max-hold function
- temperature read-out in ±F or ±C

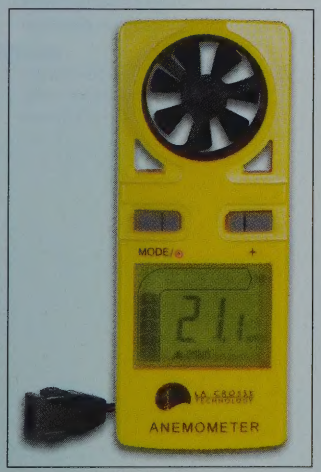
SPECIFICATIONS :
- temperature range : -58±F to 2000±F (-50±C to 1300±C)
- temperature indications are in accordance with IEC584
- 2 "K"-thermocouples are supplied
- resolution : 0.1±C or 0.1±F / 1±C or 1±F
- power supply : 9V-battery
- dimensions : 5.7" x 2.7" x 1.5"
- weight : 7.6oz

DIGITAL TACHOMETER — DTO6234

FEATURES :
- safe and accurate rpm-measurements
- 5-digit LCD displays the exact rpm : 2.5 to 99999rpm
- the last value / max. and min. values are stored automatically
- comes with case
- in option : DTO-RS

SPECIFICATIONS :
- resolution : 0.05%
- accuracy :
  - 2.5 to 999.99rpm : 0.1rpm
  - over 1000rpm : 1rpm
- power supply : 1 9V-battery (incl.)

ANEMOMETER — DVM9500



FEATURES :
- wind speed measurements : in mph, km/h or m/s units
- wind speed : in Beauford wind scale bar graph
- wind chill display
- temperature display : in degrees Celsius or Fahrenheit
- data-hold function
- auto power OFF
- LCD backlight
- comes with neckband

SPECIFICATIONS :
- wind speed : min. 0.2m/sec - max. 30m/sec
- power supply : 1 3V CR2032 battery (incl.)
- dimensions : 1.5" x .7" x 3.9"

DIGITAL LIGHT METER — DVM1300

FEATURES :
- light level measurements : from 0.01lux to 50000lux
- easy to use with single function switch, light pocket-sized device
- 3 1/2 digit LCD display with low-battery & overrange indication

SPECIFICATIONS :
- light :
  - measuring range : 200, 2000, 20000lux (20000lux range reading x10) and 50000lux (50000lux range reading x100)
  - accuracy :
    - < 10000lux : ″ 5% of rdg + 10 digits
    - > 10000lux : ″ 10% of rdg + 10 digits
  - repeatability : ″ 2%
  - temperature characteristics : ″ 0.1%/±C
  - photo detector : one silicon photo diode with filter
- power supply : 1 12V A23 battery (included)
- measurement rate : 1.5 times per second, nominal
- storage temperature : 14±F to 140±F
- photo detector dimensions : 4.5" x 2.4" x 1.1"
- dimensions : 7.4" x 2.5" x 1.0"
- weight : 5.6 oz.

ANALOGUE SOUND LEVEL METER — AVM2050

FEATURES :
- 7 sound level ranges : 50 to 126dB
- A and C weighting : for sound analyses
- fast/slow response : allows intermediate and high level measurements
- with battery level indication
- RCA output jack

SPECIFICATIONS :
- range : up to 126dB
- positions : 60, 70, 80, 90, 100, 110, 120dB
- load impedance : 1kohm min.
- distortion : < 2% at 1kHz, 0.5V
- microphone : electret condenser microphone, omnidirectional, directionality increases at higher frequencies
- precision : ″ 2dB at 144dB
- weighting : A or C
- response : slow or fast
- output signal : max. 1V deviation at 1kHz for the entire range
- power supply : 1 9V battery (incl.)
- battery test : OK indication between 7 and 10.5V
- battery life : 110 operating hours (alkaline batteries)
- dimensions : 6.3" x 2.4" x 1.7"
- weight : ″ 185g

B

DIGITAL HUMIDITY & TEMPERATURE METER (0% TO 100%RH AND -20°C TO +60°C)

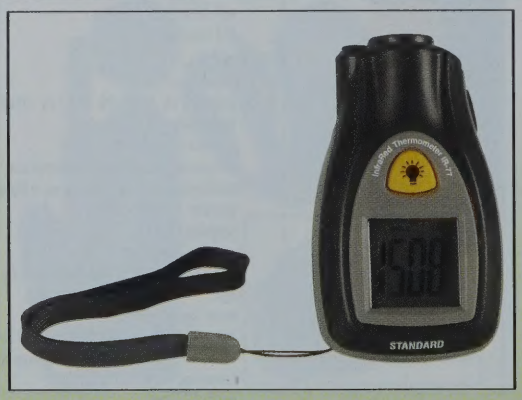
DVM321

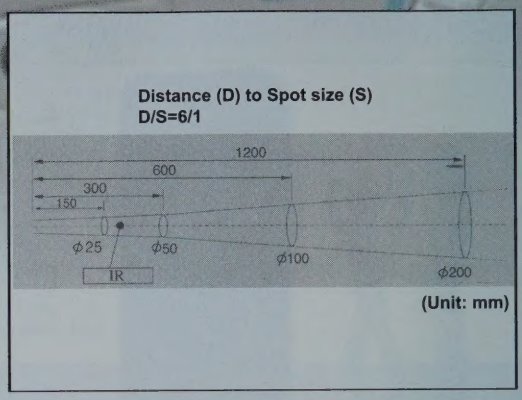
SPECIFICATIONS :

- display : LCD with backlight
- sensor type :
  - humidity : precision capacitance sensor
  - temperature : thermistor (head) and type K thermocouple
- measurement range :
  - humidity : 0%RH - 100%RH
  - temperature : -20±C to 60±C (-4±F to 140±F)
- accuracy :
  - range 5% to 95% RH : +/- 3.5%RH (at 23±C +/- 5±C)
  - range -20±C to 60±C : +/- 2.5±C
  - range -4±F to 140±F : +/- 3.5±F
- response time : 180ms
- sample rate : 2.5 times per second
- polarity : automatic, with negative polarity indication
- overload indication : "OL"
- resolution : 0.1%RH, 0.1±C, 0.1±F
- operating conditions : 0-50±C (32-122±F); <80%RH non-condensing
- storage conditions : -10±C to 60±C (14-140±F); <80%RH non-condensing
- auto power off : device shuts down automatically if no key is pressed for ″ 15 min.
- battery : 9V (6LR61) battery (incl.)
- dimensions : 225 x 45 x 34mm
- weight : 200g

NON-CONTACT INFRARED POCKET THERMOMETER (-20°C TO +270°C)

DVM77





FEATURES :

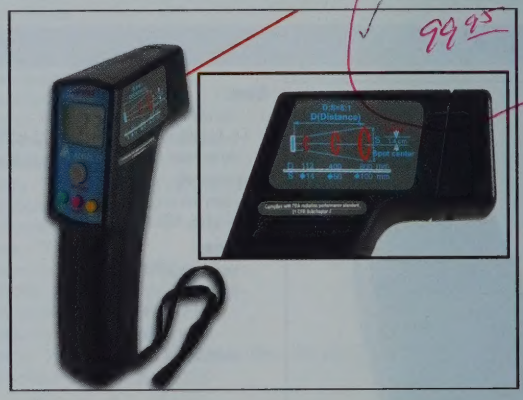
- built-in LED pointer
- temperature readout in ±C or ±F
- LCD display with backlight
- data-hold & auto power off function
- "push-to-scan" temperature function

SPECIFICATIONS :

- range : -20±C to +270±C (-4±F to +518±F)
- accuracy : ″ 2% of reading or ″ 2±C / ″ 4±F
- power supply : 2 x AAA-battery (incl.)
- dimensions : 97 x 57 x 29mm
- weight : 63g
- distance-to-spot ratio : D/S = 6/1

INFRARED THERMOMETER (-20°C TO +420°C)

DVM8869



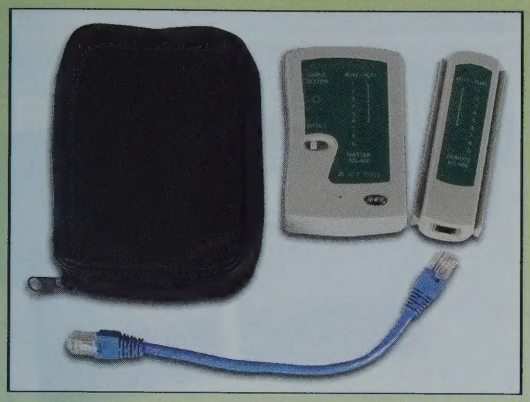
FEATURES :

- one-handed operation
- laser technology

SPECIFICATIONS :

- range : 0 to 788±F (-20±C to +420±C)
- resolution : 1±F / 1±C
- spectral response : 6-14μm
- response time : 500ms
- accuracy :
  - -20±C to +100±C : ″ 2±C
  - +101±C to +420±C : ″ 3±C
- operating temperature : 0 to +50±C
- power consumption : 40mA max.
- power supply : 1 9V-battery (not incl.)
- dimensions : 1.7" x 1.6" x 6.7"
- weight : ″ 4.9oz

LAN TESTER FOR RJ45, RJ12, RJ11, RJ10 — VTLAN4



This LAN tester for different cable types is indispensable in network installation and maintenance activities. This compact device can be used for testing network or telephone cables (RJ-45, RJ-11,12) and for most types of computer cables.

FEATURES :
- LED indication
- advanced design for easy testing
- ability to test cables from a distance and in places that are not easily accessible
- automatically runs all tests and checks for continuity, open, shorted and crossed wire pairs
- slow and fast test switch

SPECIFICATIONS :
- tests : RJ-45, 10 Base-T, Token Ring, RJ11/12 cables
- power supply : 9V-battery (not incl.)

LAN TESTER FOR RJ45, RJ12, RJ11, RJ10 & BNC — VTLAN2

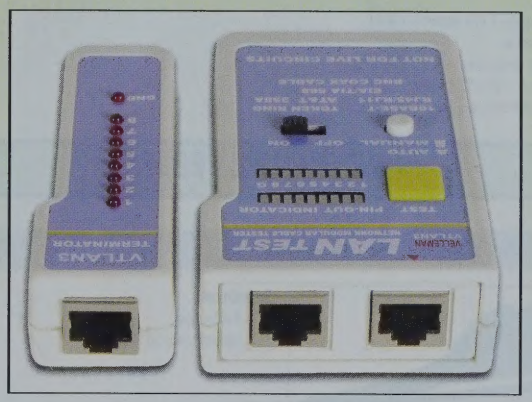
This multi-cable tester is and indispensable tool for networking installation and maintenance. This compact unit is designed specifically for on-site working staff. It can be used in testing network and telephone type cables (RJ-45, RJ-11 and BNC). It satisfies the majority of the telephone and computer cable testing requirements.

FEATURES :
- informative status lights
- advanced design for easy testing
- BNC adapter for testing BNC cables
- ability to test remote locations or installed locations with remote unit
- automatically runs all tests and checks for continuity, open, shorted and crossed wire pairs

SPECIFICATIONS :
- tests RJ-45-EIA 568A/568B (AT&T 258A), 10 Base-T, Token Ring, RJ11/12 USOC & Coaxial BNC cables
- deluxe carrying bag included
- power supply : 9-volt battery (not incl.)

LAN TESTER FOR RJ45, RJ12, RJ11, RJ10 & BNC — VTLAN3

This LAN tester for different cable types is indispensable in network installation and maintenance. This compact device can be used for testing network and telephone cables (RJ-45, RJ-11 and BNC). It can test most types of telephone and computer cables.



FEATURES :
- LED indication
- advanced design for easy testing
- BNC adapter for testing BNC cables
- ability to test cables from a distance and in places that are not easily accessible
- automatically runs all tests and checks for continuity, open, shorted and crossed wire pairs

SPECIFICATIONS :
- tests : RJ-45, 10 Base-T, Token Ring, RJ11/12 USOC & coaxial BNC cables
- power supply : 9V-battery (not incl.)

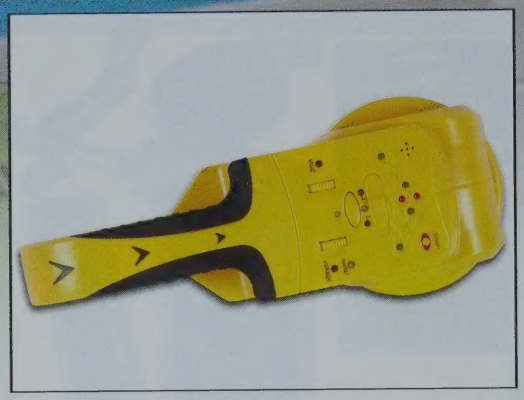
ULTRASONIC DISTANCE METER — VTUSD

FEATURES :
- 0.5" digit LC display
- also calculates the surface and the contents

SPECIFICATIONS :
- range : 2ft min. to 48.3ft max.
- accuracy : ″ 0.5%
- power supply : 2 3.0V CR2032 batteries (incl.)
- dimensions : 2.6" x 5.1"
- weight : 5.4oz

B

DETECTOR FOR LIVE WIRING AND METAL AND WOODEN STUDS ▸▸ VTMVS2

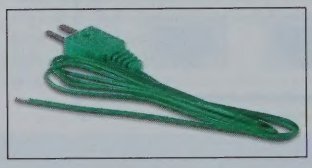


This detector uses electronic signals to locate the exact position of studs, ceiling joist AC wires and metal through drywall, concrete and other common wall materials. Once the edge of a stud has been detected, the VTMVS2 emits audio and visual signals (LED display) that allows you to easily pinpoint its center position. Utilising the procedure of scanning and marking from two sides, the VTMVS2 will find the center of wood or metal studs or live wires through 3/4 inch surfaces with 1/8 inch accuracy.

SPECIFICATIONS :
- power supply : 1 x 9V battery (not incl.)
- water-resistant
- operating temperature : -10±C to +50±C
- dimensions : 223 x 92 x 45mm
- weight (with battery) : 250g

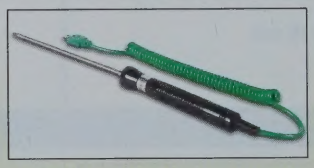
TEMPERATURE PROBES

TEMPERATURE PROBE- FLEXIBLE TYPE (-58 TO 392°F) ▸▸ TP01



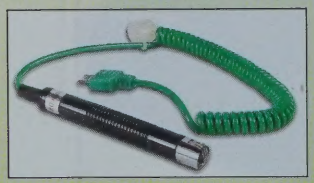
SPECIFICATIONS :
- flexible type
- temperature : -58 to 392±F

TEMPERATURE PROBE - FOR LIQUIDS - LONG SENSOR (-58° TO +572°F) ▸▸ TP02



SPECIFICATIONS :
- long type - for liquids
- temperature : -58± to +572±F

TEMPERATURE PROBE - SURFACE TYPE (-58 TO 932°F) ▸▸ TP03



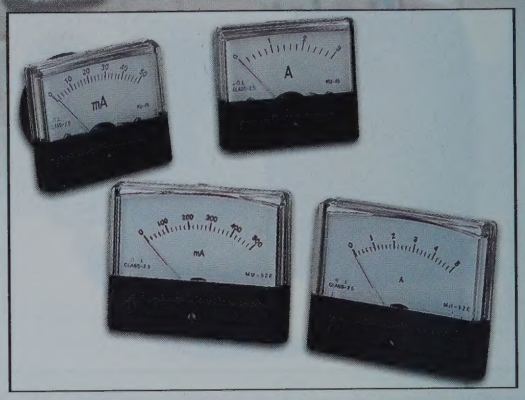
SPECIFICATIONS :
- surface type
- temperature : -58 to 932±F

PANEL METERS

PANEL METERS - ANALOG

Moving coil panel meters for use in electronic instruments, switchboards, vehicles,... With zero adjusting screw. Class 2.5.

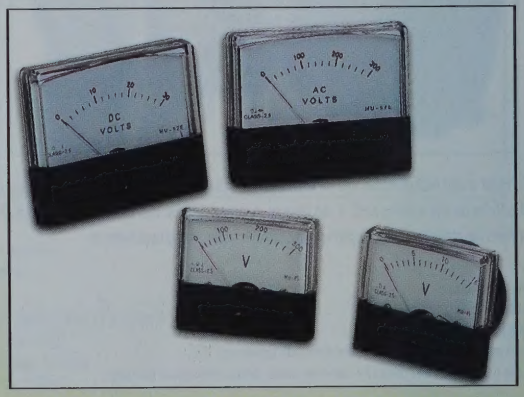
ANALOG CURRENT PANEL METERS



ANALOG DC CURRENT PANEL METERS

part name	range	dimensions
AIM60005	50µA	2.4" x 1.9"
AIM60100	100mA	2.4" x 1.9"
AIM6010A	10A	2.4" x 1.9"
AIM603000	3A	2.4" x 1.9"
AIM6030A	30A	2.4" x 1.9"
AIM6050	50mA	2.4" x 1.9"
AIM60500	500mA	2.4" x 1.9"
AIM605000	5A	2.4" x 1.9"
AIM705000	5A	2.8" x 2.4"

ANALOG VOLTAGE PANEL METERS



ANALOG DC VOLTAGE PANEL METERS

part name	range	dimensions
AVM6015	15V DC	2.4" x 1.9"
AVM6030	30V DC	2.4" x 1.9"
AVM7015	15V DC	2.8" x 2.4"
AVM7030	30V DC	2.8" x 2.4"

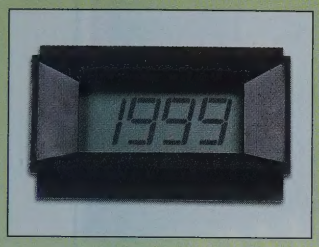
ANALOG AC VOLTAGE PANEL METERS

part name	range	dimensions
AVM60150	150V AC	2.4" x 1.9"
AVM60300	300V AC	2.4" x 1.9"

PANEL METERS - DIGITAL

DIGITAL PANEL METER LCD - 9V DC

PMLCD

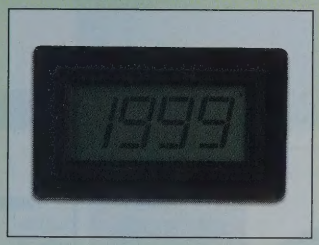


FEATURES :
- 3 1/2 LCD panel meter
- single 9V DC operation
- power consumption : 1mA DC
- high input impedance : > 100Mohm

SPECIFICATIONS :
- display : 3 1/2-digit LCD
- input sensitivity : 200mV FS
- power supply : 9V DC (7 - 12V DC)
- decimal point selection : with wire jumper
- automatic polarity indication
- figure height : 0.52"
- sampling rate : 2 - 3 readings / sec.
- guaranteed zero reading for 0V input
- high input impedance : > 100Mohm
- accuracy : ″ 0.5%
- power consumption : 1mA DC
- size : 2.7" x 1.7"

DIGITAL PANEL METER LCD - ECONOMIC

PMLCDL

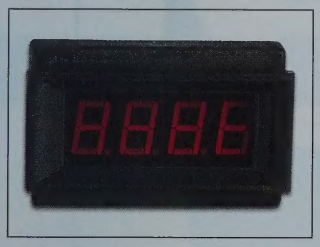


FEATURES :
- low-cost version
- single 8/12V DC (1mA) operation
- high input impedance : > 100Mohm
- dimensions : 2.7" x 1.7"

SPECIFICATIONS :
- display : 3 1/2-digit LCD
- input sensitivity : 200mV FS
- power supply : 9V DC (7 - 12V DC)
- decimal point selection : with wire jumper
- automatic polarity indication
- figure height : 0.52"
- sampling rate : 2 - 3 readings / sec.
- guaranteed zero reading for 0V input
- high input impedance : >100Mohm
- accuracy : ″ 0.5%
- power consumption : 1mA DC
- size : 2.7" x 1.7"

DIGITAL PANEL METER LED - 9V DC

PMLED



FEATURES :
- 3 1/2 LED digital panel meter
- single 9V DC-operation
- high input impedance : > 100Mohm

SPECIFICATIONS :
- display : 3 1/2 digit LED
- input sensitivity : 200mV FS
- power supply : 9V DC
- decimal point selection : with wire jumper
- automatic polarity indication
- figure height : 0.56"
- sampling rate : 2 - 3 readings / sec.
- guaranteed zero reading for 0V input
- high input impedance : > 100Mohm
- accuracy : ″ 0.5%
- power consumption : 50 - 60mA
- size : 2.7" x 1.7"

DIGITAL PANEL METER LED - 5V DC

PMLED/5

FEATURES :
- 3 1/2 LED digital panel meter
- single 5V DC operation
- high input impedance : > 100Mohm

SPECIFICATIONS :
- display : 3 1/2 digit LED
- input sensitivity : 200mV FS
- power supply : 5V DC
- decimal point selection : with wire jumper
- automatic polarity indication
- figure height : 0.56"
- sampling rate : 2 - 3 readings / sec.
- guaranteed zero reading for 0V input
- high input impedance : > 100Mohm
- accuracy : ″ 0.5%
- power consumption : 50 - 60mA
- size : 2.7" x 1.7"

PRECISION RESISTOR SET

PM/RES

FEATURES :
- a set of 5 precision resistors to determine the measuring range
- for : PMLCD (see p.93) , PMLCDL (see p.93) , PMLED (see p.93) & PMLED/5 (see p.93)

B

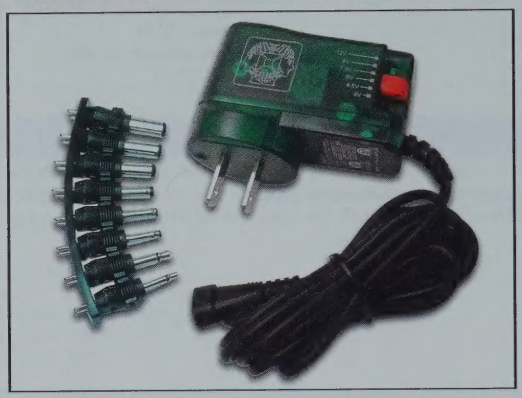
COMPACT SWITCHING POWER SUPPLIES

Get rid of those bulky power-hungry heat-producing mains adapters. These adaptors use state-of-the-art switching power supplies and feature some major advantages such as: - cooler running - stabilized output - short-circuit and overload protection - compact design - very low idling consumption

COMPACT SWITCHING POWER SUPPLIES SELECTABLE OUTPUT

C

COMPACT SWITCHING POWER SUPPLY 10W WITH SELECTABLE OUTPUT ▸▸ PSSMV1USA



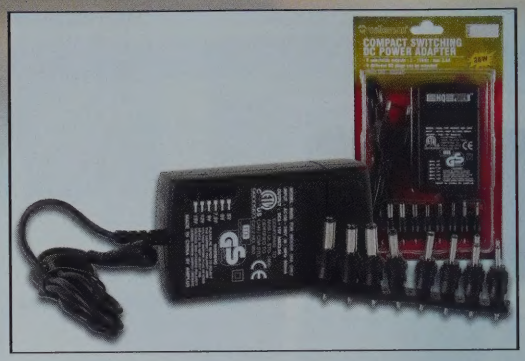
SPECIFICATIONS :
- supply voltage : 100 ~ 230V AC ″ 15%
- power : 10W
- efficiency : > 80%
- output voltages : 3, 4.5, 6, 7.5, 9, 12V DC
- output current : 800mA (regulated) / 1.5A max.
- plugs : 2.5mm mono, 3.5mm mono, 1.0x3.0mm, 1.35x3.5mm, 1.7x4.0mm, 2.1x5.0mm, 2.5x5.5mm, 1.5x5.5mm
- dimensions : 2.6" x 1.1" x 2.9"
- weight : 3.0 oz

COMPACT SWITCHING POWER SUPPLY 24W WITH SELECTABLE OUTPUT ▸▸ PSSMV3

FEATURES :
- 7 different DC plugs can be mounted

SPECIFICATIONS :
- input voltage : 100 ~ 240V AC 50/60Hz
- power : 24.0W max.
- efficiency : >= 70%
- selectable output voltage : 3.0, 4.5, 6.0, 7.5, 9.0, 12.0V DC
- output current : 2000mA
- 4 x mains power plugs : USA / UK / Europe / Taiwan / China
- dimensions : 4.6" x 2.4" x 3.3"

COMPACT SWITCHING POWER SUPPLY 28W WITH SELECTABLE OUTPUT ▸▸ PSSMV4U



FEATURES :
- 8 different DC plugs can be mounted

SPECIFICATIONS :
- supply voltage : 100 ~ 240V AC 50/60Hz
- power : 28W
- high efficiency : typ. 80%
- selectable output : 5, 6, 7.5, 9, 12, 15V DC
- output current : 3.6A max.
- very low consumption during stand-by : approx. 8%
- output plugs : 2.5mm, 3.5mm, 3.0x1.0, 3.5x1.0, 4.0x1.5, 5.0x2.0, 5.5x1.0, 5.5x2.0mm
- dimensions : 3.7" x 2.2" x 1.2"

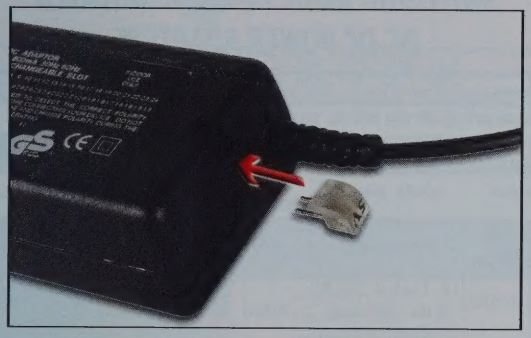
COMPACT SWITCHING POWER SUPPLY 28W WITH SELECTABLE OUTPUT ▸▸ PSSMV5U

FEATURES :
- 8 different DC plugs can be mounted

SPECIFICATIONS :
- supply voltage : 100 ~ 240V AC 50/60Hz
- power : 28W
- high efficiency : typ. 80%
- selectable output voltages : 12, 15, 18, 20, 22, 24V DC
- output current : 2.3A max.
- very low consumption during stand-by : approx. 8%
- dimensions : 3.7" x 2.2" x 1.2"

COMPACT SWITCHING POWER SUPPLY 36W WITH SELECTABLE OUTPUT

PSSMV7U

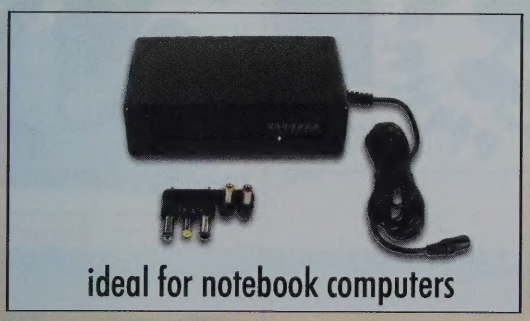


FEATURES :
- with 8 detachable DC plugs
- for notebook computers & personal digital electronic devices
- stabilized output, low ripple & interference
- short-circuit & overload protection
- high efficiency & low energy consumption

SPECIFICATIONS :
- supply voltage : 100 ~ 240V AC
- power : 36W
- efficiency : >= 70%
- 20 selectable outputs : 5 to 24V DC in steps of 1V (from 4.3 to 1.5A)
- output plugs : 2.5mm mono, 3.5mm mono, 1.0x3.0mm, 1.35x3.5mm, 1.7x4.0mm, 2.1x5.0mm, 2.5x5.5mm, 1.5x5.5mm
- dimensions : 3.5" x 1.8" x 1.2"

SWITCHING MODE UNIVERSAL REGULATED ADAPTER 70W WITH SELECTABLE OUTPUT

PSSMV6U



FEATURES :
- with 5 detachable DC plugs
- for notebook computers & personal digital electronic device
- stabilized output, low ripple and low interference
- adjustable output voltage
- short circuit & overload protection
- high efficiency & low energy consumption

SPECIFICATIONS :
- supply voltage : 100 ~ 240V AC 50/60Hz
- power : 70W max.
- efficiency : >= 70%
- output :
  - 15, 16, 18, 19, 20V DC 3.5A regulated
  - 22, 24V DC 2.9A regulated
- dimensions : 5.5" x 1.7" x 3.1"

UNIVERSAL REGULATED SWITCHING MODE ADAPTER 120W WITH SELECTABLE OUTPUT 15 TO 24VDC

PSSMV8U

FEATURES :
- with 6 detachable DC plugs
- for notebook computers & digital electronic devices
- stabilized output, low ripple & interference
- short-circuit & overload protection
- high efficiency & low energy consumption
- power LED

SPECIFICATIONS :
- supply voltage : 100 ~ 240VAC
- power : 120W max.
- selectable output voltages : 15 - 16 - 18 - 19 - 20VDC (6A regulated) / 22 - 24VDC (5A regulated)
- output plugs : 6.5x4.5, 6.3x3.0, 4.75x1.7mm (straight types) / 5.5x2.5, 5.5x2.1mm (right-angled types) / special computer connector
- dimensions : 6.9" x 2.6" x 1.6"

COMPACT SWITCHING ADAPTERS 70W

FEATURES :
- continuous short circuit protection
- high effiency : 85% typ.
- meets UL, CSA, TUV, CE
- ideal for spare power supply for portable PC

SPECIFICATIONS :
- input characteristics :
  - voltage : 90 ~ 264V AC
  - frequency : 47 to 63Hz
  - inrush current : 50A max. @ 264V AC
  - input to output insulation : 4242V DC
  - leakage current : 0.25mA
- output characteristics :
  - short circuit protection : continuous
- operating temperature : 32±F to 104±F
- connector : 2.1x5.5mm
- cable length : "6.2ft

part name	output voltage	output current	ripple and noise	voltage accuracy	line regulation	load regulation	dimensions
PSS1255	12V	5.8A	1%	" 2%	" 1%	" 5%	5.2" x 2.3" x 1.3"
PSS1546	15V	4.6A	1%	" 2%	" 1%	" 3%	5.2" x 2.3" x 1.3"
PSS1839	18V	3.9A	1%	" 2%	" 1%	" 2%	5.2" x 2.3" x 1.3"
PSS2430	24V	3.0A	1%	" 2%	" 1%	" 2%	5.2" x 2.3" x 1.3"

part name PSS1255

part name PSS1546

C

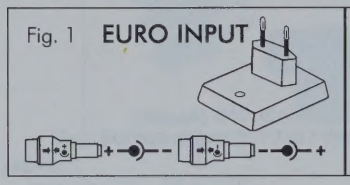
part name PSS1839

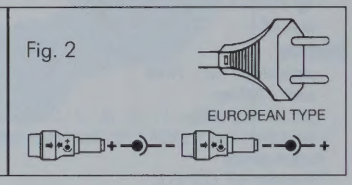
part name PSS2430

NON-REGULATED VOLTAGE ADAPTERS

NON-REGULATED SINGLE-VOLTAGE ADAPTERS

NON-REGULATED SINGLE-VOLTAGE ADAPTERS AC INPUT DC OUTPUT





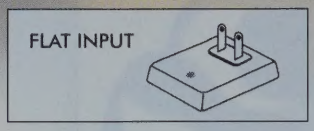
SPECIFICATIONS :
- input : 230Vac / 50Hz
- thermal cut-off
- non-regulated
- short-circuit protection
- DC plug : 2.1 x 5.5mm
- cord : 1.85m

part name	voltage	max. current	dimensions	fig.
PS910	9V DC	1000mA	3.4" x 2.3" x 2.0"	1
PS1208	12V DC	800mA	3.4" x 2.3" x 2.0"	1

part name PS910

part name PS1208

NON-REGULATED SINGLE-VOLTAGE ADAPTERS 115V AC INPUT DC OUTPUT



SPECIFICATIONS :
- input : 115Vac / 60Hz
- thermal cutoff
- non-regulated
- short-circuit protection
- DC plug : 0.22" / 0.08" ((+) inside)
- cord : 6ft

part name	voltage	current
PS1208USA	12V DC	800mA max.
PS905USA	9V DC	500mA max.
PS910USA	9V DC	1000mA max.

SWITCHING MODE IN-CAR REGULATED DC-DC POWER ADAPTERS

Operate your favorite electronic gear in your car. Equipped with plugs that can be used virtually anywhere. They can be connected with your car's cigarette plug (with neg. ground).

FEATURES :
- fuse-protected
- packed in blister
- short-circuit and overload protection, thermal cut-off
- indicator : power LED

part name	input voltage	output voltages	current	power	plugs	
CARS2000	12/24V DC	1.5 - 3 - 4.5 - 6 - 7.5 - 9V DC (for 12/24V inputs) 12V DC (only for 24V input)	2000mA	24W	0.75x2.35, 2.5, 3.5, 1.35x3.5, 1.7x4.0, 2.1x5.0, 2.5x5.5mm	with LED power indicator / fuse protection
CARS3500	12V DC	15 - 16 - 18 - 19 - 20 - 22 - 24V DC	3.5A	70W	6.0mm (with special pin), 5.5x2.5, 5.5x2.0, 5.0x1.5, 6.5x3.0mm	for notebook computers & digital electronic devices
CARS3500S	12Vdc	15 - 16 - 18 - 19 - 20 - 22 - 24Vdc	3.5A for 15-20V ; 2,9A for 22-24V	70W	6.0mm (with special pin), 5.5x2.5, 5.5x2.0, 5.0x1.5, 6.5x3.0mm	for notebook computers & digital electronic devices
CARS6000	12 ~ 16Vdc	15 - 16 - 18 - 19 - 20 - 22 - 24Vdc	6A max. (for 15 - 16 - 18 - 19 - 20Vdc output) / 5A max. (for 22 - 24Vdc output)	120W	6.5x4.5, 6.3x3.0, 4.75x1.7mm (straight types) / 5.5x2.5, 5.5x2.1mm (right-angled types) / special computer connector	for notebook computers & digital electronic devices

part name CARS2000

part name CARS3500

part name CARS3500S

part name CARS6000

CAR BATTERY PROTECTOR

CAR BATTERY PROTECTOR 12V-12V / MAX. 10A ▸▸ PSPC10BP

The battery protector prevents appliances (e.g. cooler) from draining the battery of your car. The device continuously monitors the voltage and charge status of your car battery.

SPECIFICATIONS :
- input voltage : DC 12V
- connected voltage : 12.5V ″ 0.3V
- cutoff voltage : 11.2V ″ 0.3V
- maximum operating current : 10A

CONVERTERS 24V DC TO 12V DC

24VDC TO 12VDC CONVERTER, 20A ▸▸ PSDC20

FEATURES :
- compact design for in-car use

SPECIFICATIONS :
- input voltage : 24V DC
- output voltage : 12V DC
- max. current : 20A
- banana plugs
- fuse protected

REGULATED DESKTOP POWER SUPPLIES

FEATURES :
- very low ripple noise
- LED power indication
- short-circuit protection
- overload protection

SPECIFICATIONS :
- power source : 115V AC / 60Hz

FIXED REGULATED POWER SUPPLY DESKTOP 1.5A - 115V ▸▸ PS2122LEU

FEATURES :
- with on-off switch

SPECIFICATIONS :
- selectable regulated output voltages : DC 3 - 4.5 -6 - 7.5 - 9 - 12V
- output current : 1.5A (2A peak)
- dimensions : 6.1" x 3.7" x 2.8"
- weight : 2.73lbs

REGULATED DESKTOP POWER SUPPLY 2A ▸▸ PS2122U

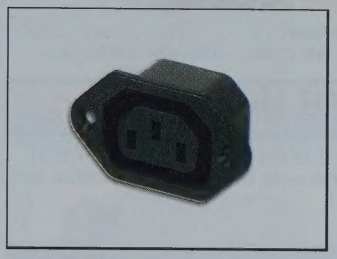
SPECIFICATIONS :
- selectable regulated output voltages : 3 - 4.5 -6 - 7.5 - 9 - 12V DC
- output current : 2A
- dimensions : 5.3" x 3.9" x 2.8"
- weight : 3.9lb

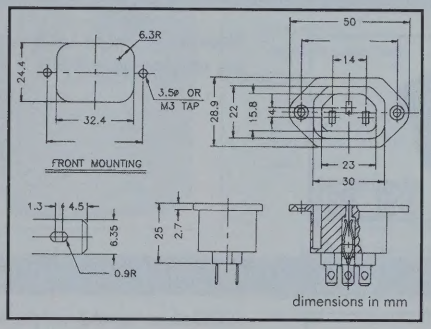
AC CONNECTORS AND RECEPTACLES

AC CONNECTORS & RECEPTACLES

ECC CONNECTORS

FEMALE POWER SOCKET, CHASSIS TYPE ▸▸ PSCF1

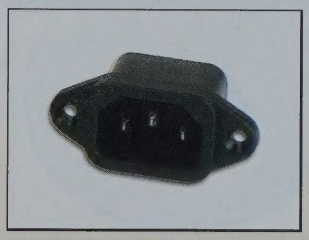


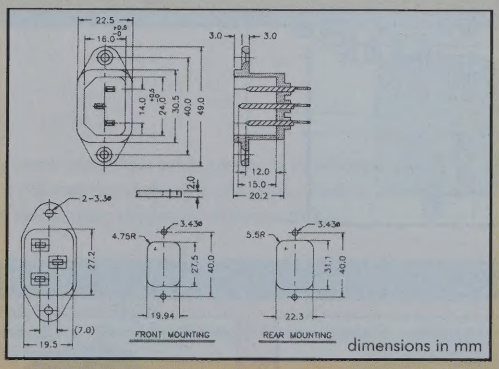


FEATURES :
- solder model

SPECIFICATIONS :
- insulation resistance : 1000Mohm min.
- dielectric strength : 2000V min.
- approvals : - 15A / 250V : UL, CSA - 10A / 250V : VDE, SEMKO, SEV, FIMKO

MALE POWER SOCKET, CHASSIS TYPE ▸▸ PSCM1





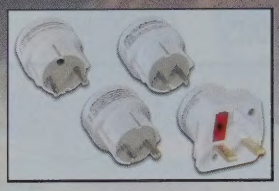
FEATURES :
- solder model

SPECIFICATIONS :
- insulation resistance : 1000Mohm min.
- dielectric strength : 2000V min.
- approvals : - 15A / 250V : UL, CSA - 10A / 250V : VDE, SEMKO, SEV, FIMKO

C

TRAVEL ADAPTER SETS

SET OF MAINS PLUG ADAPTERS — WTA4



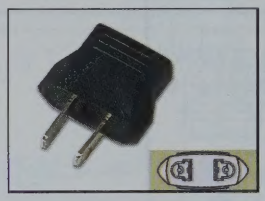
FEATURES :
- 4 adapter plugs :
  - adapter 1 : continental Europe, Denmark, Russia
  - adapter 2 : North America, Japan
  - adapter 3 : India, South Africa
  - adapter 4 : England, Ireland, Cyprus, Hong Kong, Kenya, Scotland, Singapore, etc.

SPECIFICATIONS :
- with 13A fuse - ratings : 13A / 250V AC

INDIVIDUAL TRAVEL ADAPTERS

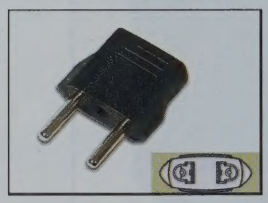
The multifunctional adapters can be inserted into all kinds of plugs and provide an easy way of converting the world's power outlets into universal outlets. Use your equipment (e.g. power supplies, DC-AC, AVR and UPS) the world over thanks to the HQ Power adapters.

MAINS PLUG ADAPTER FOR AMERICAN SOCKET — MF-7



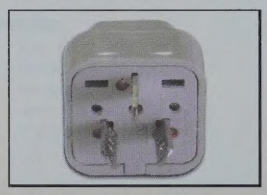
Adapter plug with 2 flat pins. Can be used with every type of plug, with the exception of UK plugs.

MAINS PLUG ADAPTER FOR EUROPEAN SOCKET — MU-5

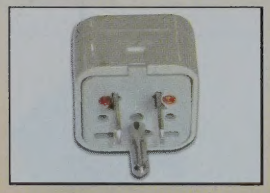


SCHUKO adapter plug with 2 round pins, Ø.16". Can be used with every type of plug, with the exception of UK plugs.

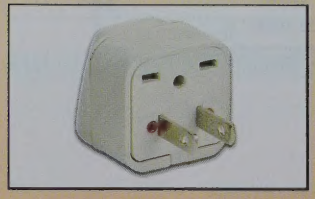
TRAVEL ADAPTER — WTA16

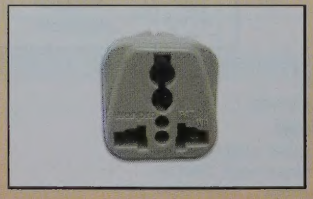


TRAVEL ADAPTER — WTA5

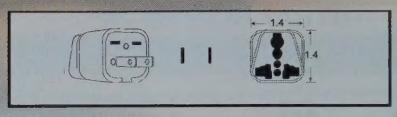


TRAVEL ADAPTER — WTA6



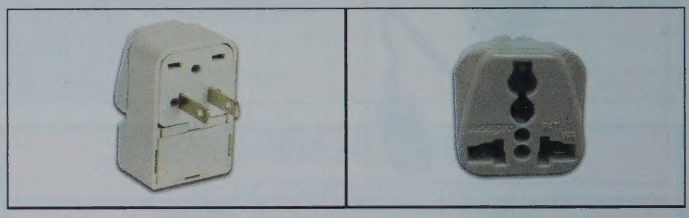


FEATURES :
- suitable for Taiwan, Japan, Canada, China, USA

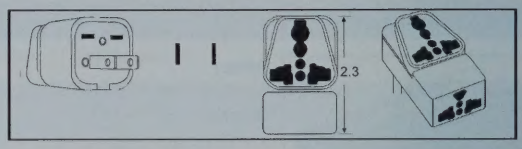


SPECIFICATIONS :
- ratings : 15A / 125V or 10A / 250V

TRAVEL ADAPTER WITH DOUBLE OUTLET — WTA62

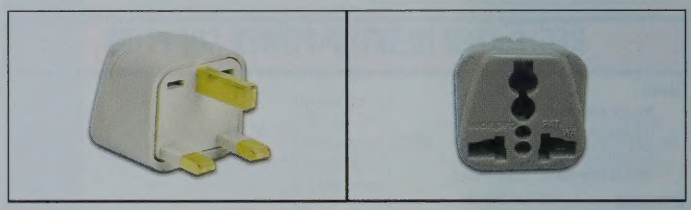


FEATURES :
- suitable for Taiwan, Japan, Canada, China, USA

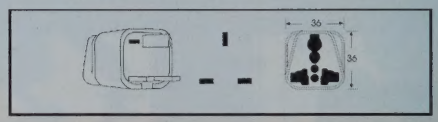


SPECIFICATIONS :
- ratings : 15A / 125V or 10A / 250V

TRAVEL ADAPTER — WTA7

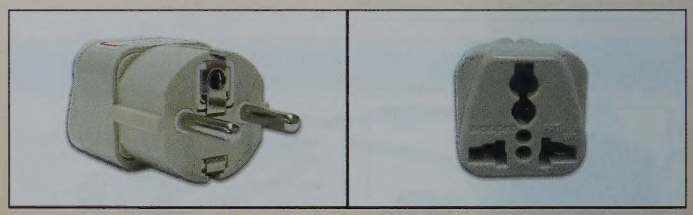


FEATURES :
- suitable for England, UAE, Hong Kong

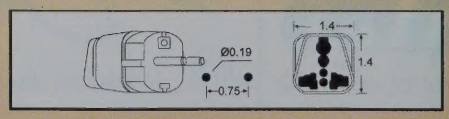


SPECIFICATIONS :
- ratings : 13A / 250V

TRAVEL ADAPTER — WTA9



FEATURES :
- suitable for Belgium, the Netherlands, France, Germany



SPECIFICATIONS :
- ratings : 16A / 250V

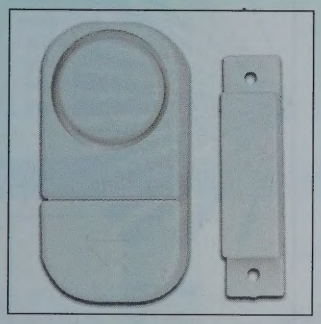
SECURITY SYSTEMS

PERSONAL PROTECTOR ALARM — PAM50

FEATURES :
- protects individuals, handbags, briefcases, luggage, etc.
- activated when the cord is pulled

SPECIFICATIONS :
- power supply : 2 1.5V LR1 N-size
- sound level : 110 dB (at 12")
- battery life : 60 min (continuous activation)
- dimensions : 2.9" x 2.3" x 0.7"

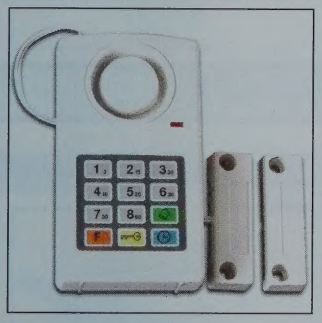
DOOR/WINDOW ENTRY ALARM — HAM100



FEATURES :
- easy installation
- 105dB instant alarm
- no wiring necessary

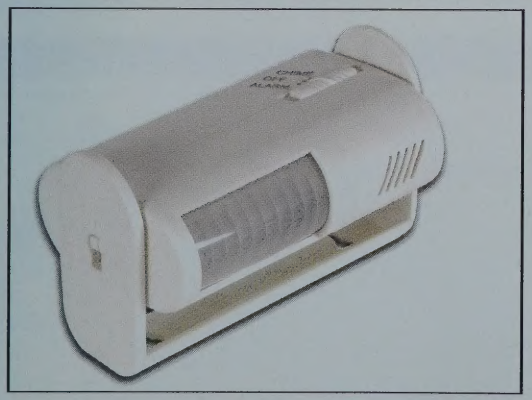
SPECIFICATIONS :
- power supply : 3 1.5V LR44 button cell (incl.)

3-DIGIT ENTRY ALARM WITH MAGNET & CHIME — HAM2007



SPECIFICATIONS :
- programmable security code : 3 digits
- programmable entry time : 3 - 15 - 30 sec.
- programmable exit time : 10 - 20 - 30 sec.
- powerful built-in piezo siren : 105dB
- portable and ultra low consumption
- power supply : 3 1.5V AAA-battery (not incl.)
- dimensions : 2.2" x 4.0" x 1.0"
- weight : 2.5oz

MINI PIR SENSOR WITH ALARM — HAM1011



FEATURES :
- wide detection range / easy installation
- "ding-dong" and alarm
- can be used indoors at home and on trips, can be installed horizontally or vertically or used as a freestanding device
- the detection range can be adjusted freely after installation

SPECIFICATIONS :
- power supply : DC 9V (1 9V alkaline battery not incl.)
- detection range : 26ft max.
- detection angle : 60±
- operation modes : alarm / off / "ding-dong"
- working temperature : -4±F to +104±F
- working humidity : < 93% RH
- motion speed detection range : 2 ~ 5ft/s
- standby current : 0.15mA
- alarm time delay : > 10s
- alarm volume : > 80dB

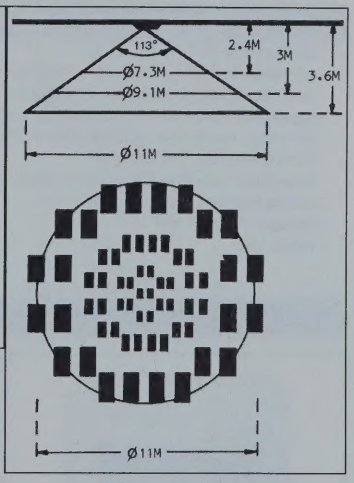
PORTABLE DOORBELL/ALARM WITH PIR DETECTOR — HAM9011

FEATURES :
- passive IR sensor provides the most reliable form of detection24hrs a day
- functions : doorbell or siren
- position can be adjusted through 120± following installation
- unique, compact, portable, can be mounted on a wall or placed on a desk
- sensors are easy to install

SPECIFICATIONS :
- dimensions : 2.6" x 4.1" x 1.4"
- power supply : DC 4.5V (3 AA batteries not included)
- detection area : max. 32ft / angle 89±
- switch positions :
  - (1) : chime-ding-dong
  - (2) : off
  - (3) : alarm-siren is activated for 40 seconds and is automatically reset afterwards
- battery life : approx. 120 days (detection only)
- operating temperature : 14±F to 104±F
- accessories : mounting bracket, screws, wall anchors

PIR DETECTORS

CEILING-MOUNTED PIR DETECTOR — HAA50

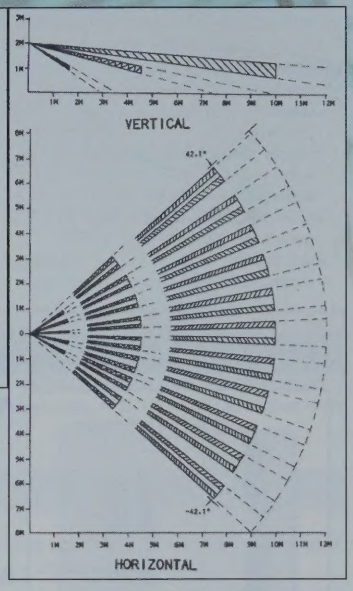


The HAA50 ceiling-mounted passive infrared detector is designed for use with modern residential and commercial security systems. This device is fitted with pulse-counting circuitry and employs a pyroelectric sensor equipped with 2 elements that provide substantial immunity against false alarms due to environmental factors.

SPECIFICATIONS :
- detection pattern : 360± conical pattern, Ø 35ft when installed at a height of 12ft
- operation voltage : DC 8 - 16V
- quiescent current : 15mA typical at DC 12V
- relay output : normally closed (fail-safe) dry relay contact, 18ohm resistor is connected in series with the contact
- alarm activation delay : 2 - 3 seconds
- tamper output : normally closed contact
- LED : walk-test enabled or disabled with internal link
- pulse counter : single- or double-pulse detection through alternating signal polarity
- mounting height : 12ft max.
- dimensions : 3.4" x 1.0"
- operating temperature range : 0 ±C to 70 ±C
- not suited for outdoor use

D

PIR DETECTOR WITH DUAL ELEMENT — HAA51

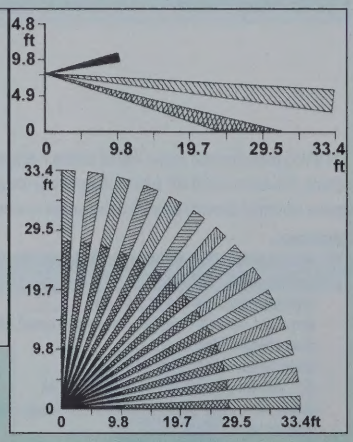


The HAA51 PIR detector is designed for advanced commercial and residential security systems. The device detects the movements of an intruder in the detection zone. The HAA51 displays a number of characteristics that are mostly reserved for advanced professional systems. The electronic wiring is state-of-the-art and makes for excellent performance and reliability. The detector uses a dual-element pyroelectric sensor and a built-in "daylight" filter. This filter protects the device from strong hot or cold air currents, sudden changes in ambient temperature, noise, etc.

FEATURES :
- the dual-element pyroelectric sensor and the pulse counter provide substantial immunity against false alarm
- Fresnel lens array offers good coverage of the detection range
- 24 dual-element detection zones for long, mid and short range protection
- the shape of the back panel ensures easy installation
- surface or corner mounting without extra accessories
- single-shot or pulse-count triggering selectable

SPECIFICATIONS :
- detection pattern : 84.2± span, range 40ft
- detection zones : 24 dual-element zones in 3 layers
- LED indicators : one pattern locator / one alarm / walk test indicator with "alarm" or " walk" position
- mounting height : 6.5ft, tilting angle for back plate 13.96±, installation without height adjustment
- mounting location : indoors only, on a flat surface or in a corner
- operation voltage : DC 8 - 16V, DC 12V nom.
- quiescent current : 15mA typical at DC 12V
- sensor : dual-element pyroelectric sensor with daylight filter
- triggering mode : pulse-count or single-shot activation selectable (factory setting : pulse count)
- alarm output : normally closed relay contact, 0.1A / DC 28V rating
- alarm activation delay : 2 seconds typical
- tamper contact : normally closed when depressed, 50mA / DC 12V rating
- operating temperature : -10±C to + 55±C
- dimensions : 4.6" x 2.9" x 2.9"
- weight : 5.64oz

PIR INTRUSION MINI DETECTOR — HAA52

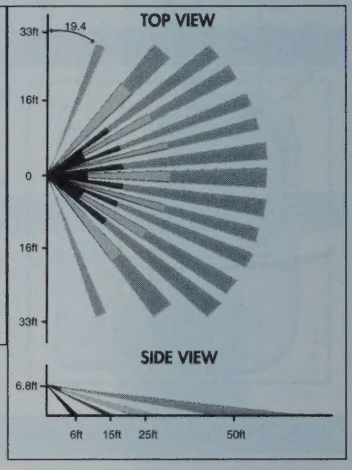


The HAA52 is a miniature PIR intrusion detector. This reliable low-cost detector is suitable for general security applications. The device can be installed virtually anywhere and is protected by an RFI filter. The contact is N.C. and the HAA52 offers substantial immunity from false alarms and sabotage.

FEATURES :
- dual-element pyroelectric sensor
- programmable pulse counter
- 12± vertical angle adjustment
- wide detection angle : 90±
- RFI protection
- wide operating voltage range : DC 8-16V
- surface and corner mounting

SPECIFICATIONS :
- detection pattern : wide angle, 40ft x 40ft, 90±, max 42 beams in 3 layers
- adjustment : vertical 0± to -12± on a calibrated scale
- mounting height : up to 16ft above floor level, indoor mounting only
- operating voltage : DC 8 to 16V
- current drain : 15mA typical
- alarm output : normally closed (fail-safe) dry relay contacts (rating : 0.5A/24V DC ; resistor of 8ohms in series with contacts)
- alarm activation delay : 2 to 3 seconds
- tamper contacts : normally closed microswitch with dry contacts (rating - 0.5A / 24V DC)
- detection modes : single-shot or pulse-count detection
- LED indicator : walk-test indication ON or OFF (selectable)
- dimensions : 2.2" x 1.2" x 2.9"
- weight : 1.76oz

PIR SENSOR WITH DOUBLE TWIN OPTICS — HAA54

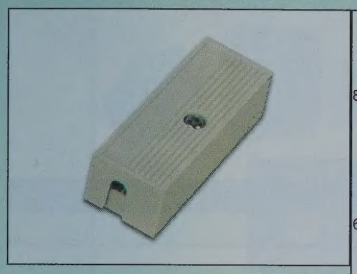


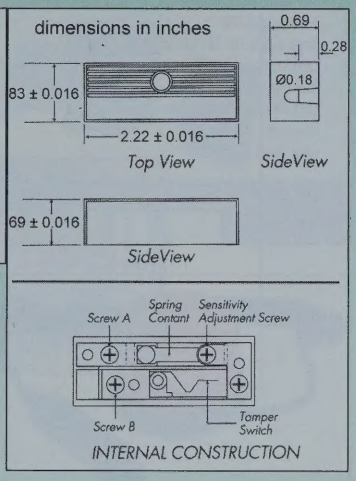
FEATURES :
- double-twin-optics detection technology
- SMD-technology for greater EMI and RFI immunity
- detects the real intruders, not the pets or rodents
- automatic temperature compensation
- fast or pulse count response for difficult environments
- with tamper switch

SPECIFICATIONS :
- detection method : alternating polarity, 2 pyro-optic elements, passive infrared
- power-up delay : 2 minutes with flashing LED indication
- alarm activation delay : 2-3 seconds
- pulse count : instant response or 2 pulses within 12 seconds
- walk test LEDs : CH1, CH2 and alarm indicators
- alarm output : relay NC 28V DC 0.1A
- power supply : DC 12V (DC 9-16V) / 15mA typ.
- operating temperature : 14±F to 131±F with temperature compensation
- dimensions : 5" x 2.5" x 1.8"

WIRED HOME ALARM ACCESSORIES

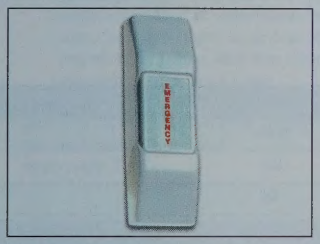
VIBRATION SENSOR — HAA15





SPECIFICATIONS :
- two in one : NC & NO contacts
- tamper switch for NC circuit
- gold-plated contact
- spring is made of quality phosphor bronze
- all conducting metals are nickel-plated
- strong ABS housing
- color : ivory
- operating temperature : -4±F to 140±F

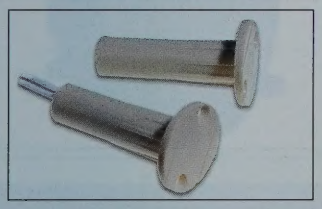
EMERGENCY BUTTON (PANIC) — HAA60



SPECIFICATIONS :
- NC & NO alarm circuit connection
- screw connectors
- momentary contact (off / on)
- contact rating : DC 24V / 0.5A max.
- color : ivory
- dimensions : 3.0" x 0.9" x 0.6"

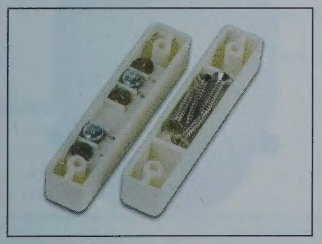
REED ALARM SWITCHES

ROUND REED SWITCH — HAA24



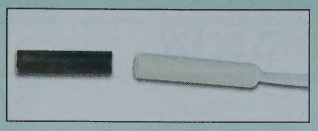
SPECIFICATIONS :
- magnetic switch for flush mounting in doors & windows
- with mounting screws
- NC contact
- mounting hole : 0.37"
- operating gap : 0.8" max.

LOW COST REED SWITCH FOR ALARM — HAA25



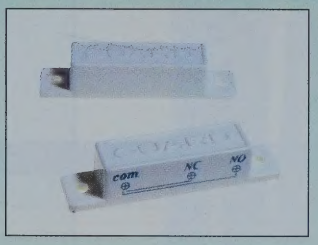
SPECIFICATIONS :
- magnetic switch, standard type
- white ABS
- mounting with screws or double-sided tape
- operating gap : max. 0.6"
- dimensions : 2.6" x 0.5" x 0.5"

MAGNETIC SWITCH — HAA26



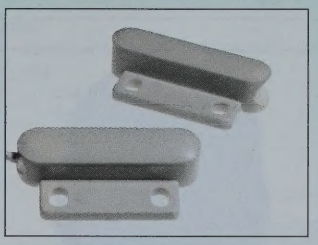
SPECIFICATIONS :
- for flush mounting
- normally closed contact
- magnetic contact with cylindrical head & cables
- simple installation
- cable length : 2 x 12"
- color : white
- dimensions : Ø0.2" x 1.2"

REED SWITCH FOR ALARM — HAA27



SPECIFICATIONS :
- standard type magnetic switch : NO & NC
- white ABS
- mounting with screws or double-sided tape
- contact rating : DC 100V / 0.5A
- operating gap : 1.2" max.
- dimensions : 2.5" x 0.5" x 0.5"

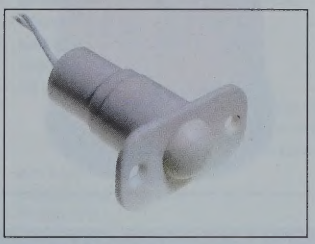
MINI REED SWITCH — HAA28



FEATURES :
- gray ABS
- miniature magnetic switch NC
- screw mounting

SPECIFICATIONS :
- contact : NC
- switching voltage (max) : AC/DC 100V
- switching current (max.) : 0.5W
- contact capacity (max.) : 10VA
- initial contact : 0.2 ohm max.
- carry current (max.) : 1A
- breakdown voltage : DC 200V
- insulation resistance : 100M ohm min.
- switch cycle : 5 x 10 (7) at DC 30V 0.1A
- with leads (on switch) : 12"
- operating gap : max. 0.9"
- dimensions : 1.3" x 0.6" x 0.3"

ROLLER BALL CONTACT — HAA29



SPECIFICATIONS :
- rollerball reed contact
- NO contact
- mounting hole : 0.8"
- operating gap : 3.5mm max
- contact resistance : 0.3 ohm
- switching current : 0.5A
- DC switching voltage : 100V
- AC switching voltage : 125V
- wire : 24 AWG / 90±C
- dimensions : 40.5 x 21.5 x 46.1mm

D

STROBES FOR HOME SECURITY DEVICES

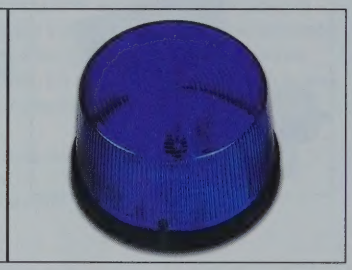
MINI STROBE LIGHTS DC 12V

FEATURES :
- for alarm systems, discos, personal use, warning in case of danger, etc...

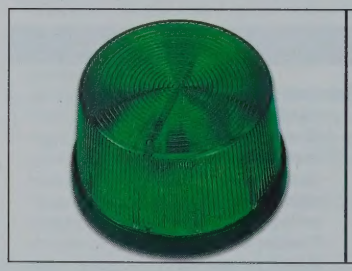
SPECIFICATIONS :
- long-life xenon tube
- protected against polarity reversal
- fully sealed and waterproof
- power output : 1W
- power supply : DC 12V
- current consumption : 150mA
- flash rate : 90-110/min.
- life expectancy : " 3 x 1000000 flashes
- operation temperature : -40±F to +176±F
- black ABS / acrylic cover
- dimensions : 2.8"(Ø) x 2.5"

part name	lens color
HAA40A	amber
HAA40B	blue
HAA40G	green
HAA40R	red
HAA40W	clear

part name HAA40A

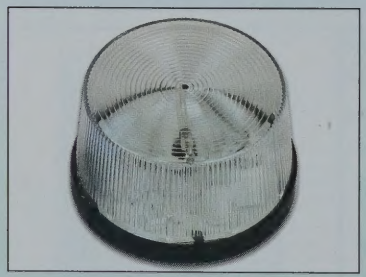


part name HAA40B



part name HAA40G

part name HAA40R



part name HAA40W

MINI STROBE LIGHTS DC 12V WITH CAR PLUG

SPECIFICATIONS :
- long-life xenon tube
- protected against polarity reversal
- fully sealed and waterproof
- power output : 1W
- power supply : DC 12V (via car plug)
- current consumption : 150mA
- flash rate : 120/min.
- black ABS / acrylic cover
- dimensions : Ø2.8" x 2.5"
- cable length : 5 ft

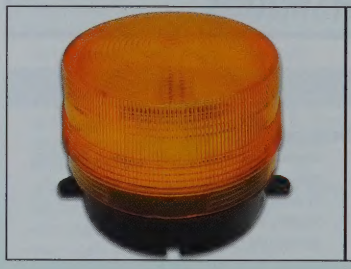
part name	lens color
HAA41A	amber

part name HAA41A

ELECTRONIC FLASHLIGHTS DC 12V

SPECIFICATIONS :
- flat lens
- supply voltage : DC 12V
- input current : 85mA/1W
- flash rate : 1.5Hz
- life expectancy : about 3 x 1000000 flashes
- operation temperature : -40±F to +176±F
- screw mounting, both indoors and outdoors
- dimensions : Ø3.9" x 3.1"

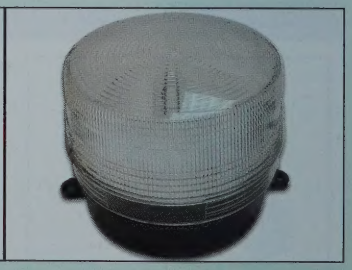
part name	lens color
HAA100A	amber
HAA100B	blue
HAA100R	red
HAA100W	clear



part name HAA100A

part name HAA100B

part name HAA100R



part name HAA100W

PHOTOELECTRIC SENSORS

MINI INFRARED SECURITY SYSTEM, 7m ▸▸ PEM7D

FEATURES :
- easy to install
- adjustable timer & volume
- applications :
  - entry detection
  - automatic alarm warning
  - present detection
- includes :
  - 1 x retro-reflection IR photoelectric beam sensor
  - 1 x power supply 230V / 9V DC / 200mA
  - 1 x alarm speaker (timer & volume adjustable)
- optional counter for PEM7D : PEM7D/C (see p.103)

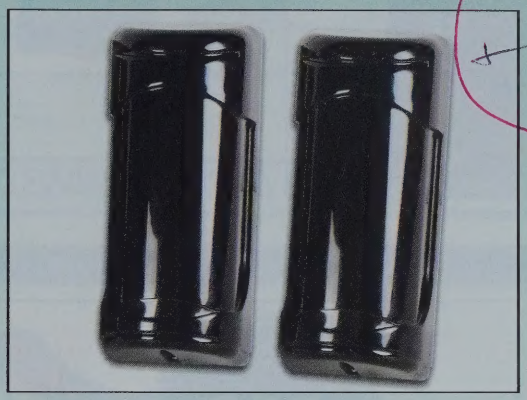
SPECIFICATIONS :
- nominal detection range : 23ft
- light source : IR LED
- speaker :
  - power supply : DC 9V
  - speaker output : chime / off / alarm (selection through by switch)
  - duration audio signal : about 1 sec. for chime, 30 sec. for alarm
  - timer adjustable : 3 - 30sec. before alarm activation
  - volume adjustable : yes (from 0 to max)
- working temperature : -4±F to +122±F
- power supply : DC 9-15V regulated (adapter included)
- total current consumption : < 100mA
- standby current : 25mA

COUNTER FOR MINI IR SECURITY SYSTEM PEM7D ▸▸ PEM7D/C

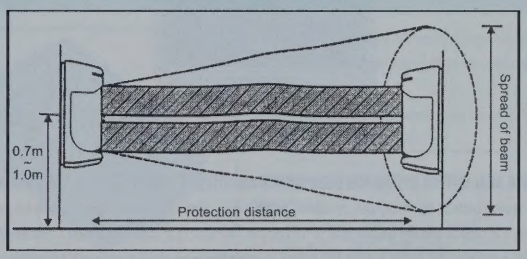
FEATURES :
- sensing type : counter for access control system PEM7D (see p.103)
- applications : garage door, entrance, supermarket, restaurant, warehouse, ...
- contents :
  - one 4-digit counter
  - one cable (10m) to connect the speaker output of the PEM7D (see p.103) with the input of the 4-digit counter PEM7D/C
  - one mounting bracket (black finish) and mounting screws
  - manual

SPECIFICATIONS :
- input voltage : 9-15Vdc
- max. display : 9999 (4 digits)
- addition : push "+" to add 1
- subtraction : push "-" to subtract 1
- manual operation : yes, hold + or - for 1 sec.
- reset : press reset button ('0000')
- monitor colour : red
- casing material : ABS
- current consumption : 48.7 mA ″10% (when '0000')
- standby current : 25mA max.
- light source : IR LED
- ambient temperature : -20±C~45±±C (-4±F~122±F)
- response time of speaker : chime: 1 sec - - alarm: 30sec (adjustable)
- external chime output : NPN output
- speaker output : chime/off/alarm (selected by slide switch)
- included : mounting bracket, screw and cable (10m) with twin plugs

TWIN PHOTO BEAM DETECTORS, 60m ▸▸ PEM300D



FEATURES :
- easy and accurate adjustment thanks to the built-in laser
- range :
  - outdoor : 30m (100ft)
  - indoor : 60m (200ft)



SPECIFICATIONS :
- power supply : DC 10 ~ 30V (not incl.)
- detection system : simultaneous breaking of 2 beams
- response time : 50ms ~ 700ms (variable)
- alarm output : NC/NO 1A/120VAC
- tamper output : NC 1A/120VAC
- LED indicators :
  - alarm LED (receiver) : red LED on - when transmitter and receiver are not aligned or when beam is broken
  - signal LED (receiver) : yellow LED on - when receiver's signal is weak or when beam is broken
  - power LED (transmitter & receiver) : green LED on - indicates that device is ON
- wave length : 650nm
- laser output power : max. 5mW
- IP rating : IP55
- alignment range :
  - horizontal : ″ 90±
  - vertical : ″ 15±C
- operating temperature : -13±F to +131±F
- dimensions : 6.7" x 3.0" x 2.8"
- weight : 2.4 lbs

D

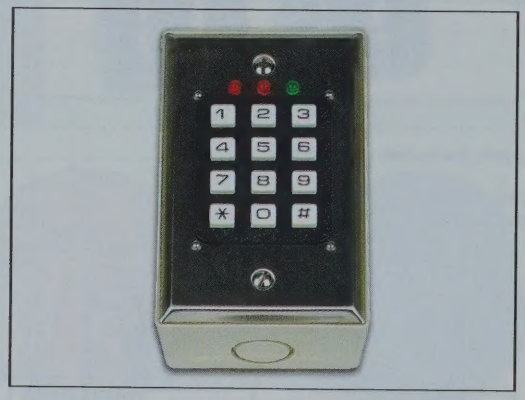
SECURITY KEYPADS

REMOTE CONTROL PANEL SWITCH — HAA80

FEATURES :
- on/off key (1p)
- complete with plastic case for surface mounting
- 2 status indicators (built-in LED)
- tamper switch built-in
- built-in connection terminal

SPECIFICATIONS :
- contact rating : 250Vac - 1.5A max.
- dimensions : 4.6" x 2.9" x 1.7"

MULTI-PURPOSE SECURITY KEYPAD — HAA85



SELF-CONTAINED DUAL OUTPUT SYSTEM FOR DOOR OPENER AND OTHER SECURITY CONTROL APPLICATIONS

The EEPROM memory protects the stored data in case of power failure. Over 100 million combinations are possible for the user codes (code 1 & code 2) and the master code (it also acts as the super user code). User code 1 can be altered to act as a duress code that activates the duress output. This output is connected to an alarm system or a telephone dialer. With tamper switch. Complete with plastic case for installation on a flat surface. Two separate relay outputs. Audible key operation.

SPECIFICATIONS :
- relay outputs :
  - output 1 : 5 Amp
  - output 2 : 1 Amp, N.C. & N.O. dry contacts, DC 30V max.
- operating voltage : DC 12V (DC 10-14V)
- current drain : 10 - 100mA
- duress output : NPN transistor with open collector output, switches to ground (-) when activated, 100mA/25V DC max.
- codes available : User 1 & 2, Super User, Master, Duress and Accelerated codes
- code combinations : 111111100
- dimensions : 4.6" x 2.9" x 1.9"
- weight : ″ 6.5oz (net), ″ 8.1oz (gross)

MULTIPURPOSE SECURITY KEYPAD - WATERPROOF — HAA85WP

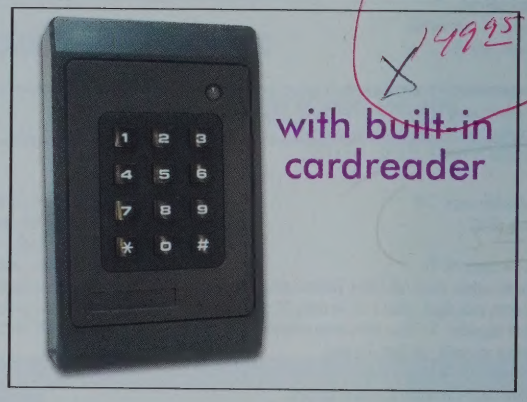
SELF-CONTAINED SYSTEM WITH THREE OUTPUTS - WATERPROOF - FOR DOOR OPENER AND OTHER SECURITY CONTROL APPLICATIONS

The EEPROM memory protects the system's programmed data in case of power failure. Over 100 million combinations are possible for the three independent user codes (code 1, code 2 & code 3) and the master code (which also acts as the super user code). User code 1 can be altered to act as a duress code for reporting duress to an alarm system or to a telephone dialer. Other security features include door sensing for the door auto re-lock function and a built-in tamper switch. An egress button can also be connected in order to provide the user with an easy exit from the protected area. The plastic case of the keypad unit is precisely engineered, in which, the front panel and the mounting box is sealed with a water-resistant gasket, making the keypad suitable for both indoor and outdoor installation.

FEATURES :
- 3 LEDs for status indication
- audible key operation
- tamper switch
- backlight

SPECIFICATIONS :
- relay outputs :
  - output 1 : 5 Amp
  - output 2 : 1 Amp
  - output 3 : 1 Amp
- duress output : 150mA sink / DC 12V open collector that switches to ground
- current drain : 15 - 150mA
- operation codes : User code 1, 2 & 3, Super User code, Master code, Duress code and Accelerated code
- code combinations : 111111100 (EEPROM)
- operation voltage : AC/DC 12V
- dimensions : 5.1" x 3.3" x 1.6"
- weight : 7.8oz net

STAND-ALONE PROXIMITY ACCESS CONTROL — HAA86C

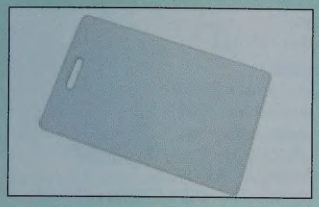


This system uses the transponder technique, which means that the exchange of data between the badge and the reader is carried out via a magnetic field (without physical contact). The reader is also equipped with a keypad, allowing conventional use of the device.

FEATURES :
- single door proximity system
- maximum reading range from 5.5"-7.9" (under normal environment)
- access control unit includes built-in reader and programming keypad
- data is protected even after power failure
- programmable alarm loop enable/disable through command code
- access code could be added or deleted through command code
- there are 3 operating Mode-Card only, Card with Keypad or free access mode (Facility Code only)
- frequency : 125kHz
- could be used by : 0.07"-0.03" EM card or key tag
- card capacity : 9999 cards (key tags)
- built-in tamper switch : detects when case is forced open or destroy (Alarm signal output (A.B. point))
- programmable door release time from 1～250 seconds through command code
- optional access card : HAA86C/TAG (see p.105)
- only for indoor use

SPECIFICATIONS :
- keypad : 3 x 4 keys
- power requirement : DC 12V 1A
- environment :
  - operating temperature : 32±F to 122±F
  - humidity : 20% to 90% RH
- dimensions : 5.1" x 3.4" x 1.0"
- relays : 2 relay contacts (max. DC 12V 1A)

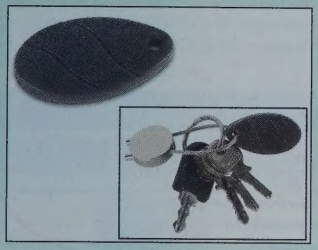
OPTIONAL ACCESS CARD FOR HAA86C & HAA87 — HAA86C/TAG



FEATURES :
- ABS plastic material which strong and flexible for resistance to cracking and breaking
- with EM chip
- for HAA86C (see p.104)

SPECIFICATIONS :
- dimensions : 3.4" x 2.1" x 0.07"

OPTIONAL ACCESS BADGE FOR HAA86C & HAA87 — HAA86C/TAG2

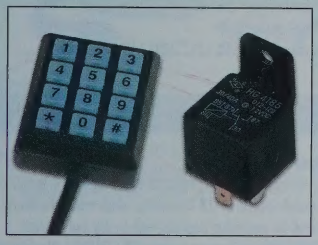


FEATURES :
- keyhanger model
- for HAA86C (see p.104)

SPECIFICATIONS :
- dimensions : 1.7" x 0.9" x 0.2"

CAR ALARMS

IGNITION CUTOFF SYSTEM WITH KEYPAD — SP150

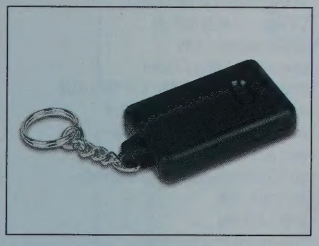


This set consists of an illuminated keyboard and a relay. Can be disarmed with a personal 4-digit code. Special key for disarming the system. The system is armed automatically 15 sec. after the engine has been shut down. "Valet" function for protection at your service station. A red flashing LED indicates that the alarm is armed.

SPECIFICATIONS :
- operating voltage : DC 10.5V ~ 14V
- power consumption :
  - arm/disarm : 8mA
  - stand-by : 44mA
  - alarm : 140mA
- relay output : 12V / 20A
- passive arming timer : 15 seconds
- dimensions : 2.2" x 1.8" x 0.7"

REMOTE RECEIVERS AND TRANSMITTERS

TRANSMITTER 1 CHANNEL — 600-1B-310



Works with AM6621-310 (see p.105) .

SPECIFICATIONS :
- 1 channel
- keychain housing
- power supply : 12V battery (incl.) (V23GA)
- transmission frequency : 310MHz
- dimensions : 1.9" x 1.3" x 0.5"

2-CHANNEL TRANSMITTER — 600-2N-310

Works with AM6621-310 (see p.105) .

SPECIFICATIONS :
- 2 channels
- keychain housing
- power supply : 12V battery (incl.) (V23GA)
- transmission frequency : 310MHz
- dimensions : 1.9" x 1.3" x 0.5"

UNIVERSAL REMOTE-CONTROLLED RECEIVER — AM6621-310

This universal receiver allows you to switch any electrical load e.g. garage door.

FEATURES :
- relay output : 10A
- 4 different switch modes
- self-learning code
- complete with cables

SPECIFICATIONS :
- power supply : 12Vdc (PS1203)
- current consumption (receiver) : 10mA max.
- frequency : 310MHz
- works with transmitter 600-1B
- can accommodate up to 6 transmitters
- dimensions : 2.8" x 2" x 1"

ACCESSORIES FOR CAR & MOTORCYCLE ALARMS

12V RED FLASHING LED W/LEADS — 821B

SPECIFICATIONS :
- flashing LED DC 12V + wire
- with plastic push-in housing
- dimensions : Ø0.3" x 0.7"
- cable length : 3.3"

12V RADAR INTRUSION DETECTOR — 959

This model emits a high-frequency energy field that immediately detects intrusions. Ideal for open cars, boats, etc.

FEATURES :
- not affected by wind, temperature, sound or vibrations
- concealed installation possible
- LED indication
- adjustable sensitivity

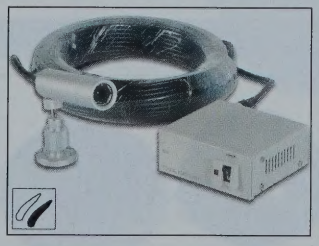
SPECIFICATIONS :
- power supply : DC 12V (15mA max.)
- dimensions : 3.1" x 2.2" x 0.9"

BLACK & WHITE CAMERAS

BLACK & WHITE CAMERAS WITH HOUSING

BLACK & WHITE CAMERAS WITH HOUSING

B/W CCD BULLET CAMERA - WATERPROOF — CAMZWBUL2N

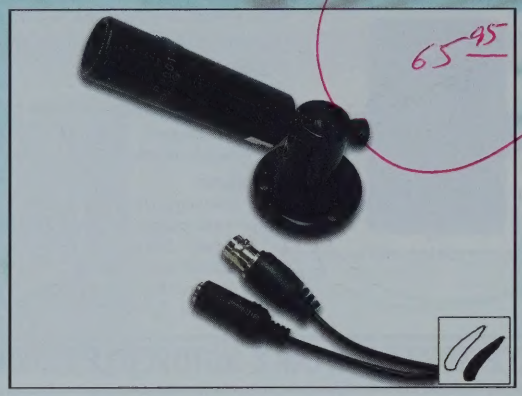


FEATURES :
- the ideal security camera for outdoor use
- 100ft of camera cable
- multi-purpose B/W camera can be used in case of limited ambient light

SPECIFICATIONS :
- image sensor : 1/3" SONY transfer hyper HAD CCD
- number of pixels : -
- synchronizing system : internal
- interlace : 2:1
- resolution : 420TV lines (H)
- video output level : 1.0Vpp 75ohm (composite)
- S/N ratio : >50dB (AGC off)
- min. illumination : 0.01Lux (AGC on)
- electronic shutter : 1/60 to 1/100000 sec.
- gamma correction : 1
- lens : f3.6mm/F2.0
- submersion : 3psi
- power supply : DC power through coaxial cable (DC 28V)
- power consumption : 2.1W approx.
- dimensions (camera) : Ø1.1" x 4.1"
- dimensions (base) : Ø1.6" x 2.4"
- power supply (supply unit) : 230Vac
- dimensions (supply unit) : 3.7" x 1.7" x 0.2"
- weight (supply unit) : 21oz
- cable length : 100 ft

D

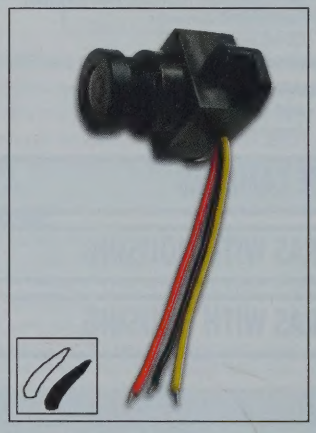
B/W CCD BULLET CAMERA — CAMZWBUL3



FEATURES :
- long life and high reliability

SPECIFICATIONS :
- pick-up element : 1/3" B/W Samsung CCD image sensor
- number of pixels : 500(H) x 582(V) -CCIR-
- resolution : 380 TV lines
- min. illumination : 0.5Lux/F2.0
- S/N ratio : > 46dB (AGC off)
- electronic shutter : 1/50 to 1/100000 auto
- load impedance : 75ohm
- standard board lens : f3.6mm/F2.0
- lens angle : 92±
- power source : DC 12V ″ 10% / 70mA (regulated)
- dimensions : 1.0" x 3.5"
- weight : 10.7 oz.

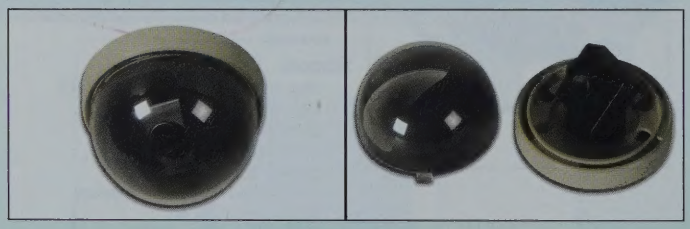
MINI B/W CMOS CAMERA — CAMZWCMN



FEATURES :
- high resolution
- low power consumption
- compact design

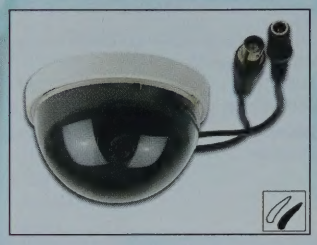
SPECIFICATIONS :
- pick-up element : 1/3" B/W CMOS image sensor
- number of pixels : 365K -EIA-
- resolution : 380 TV lines
- min. illumination : 1Lux / F1.4
- electronic shutter : 1/60 to 1/15000 sec.
- built-in lens : 3.6mm/F2.0
- lens angle : 90±
- power source : DC 12V ″ 10% / 50mA (regulated)
- weight : 0.35oz
- dimensions : 0.6" x 1.1" x 1.1"

EMPTY DOME CAMERA HOUSING — CAMZWDH



SPECIFICATIONS :
- dimensions : 3.4" x 2.8"

B/W CCD DOME CAMERA — CAMZWDN



FEATURES :
- dome : 3.4" Ø

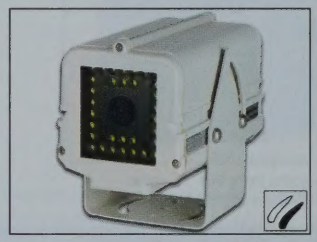
SPECIFICATIONS :
- pick-up element : 1/3" B/W CCD image sensor
- number of pixels : 510(H) x 492(V) -EIA-
- resolution : 380 TV lines
- min. illumination : 0.5Lux / F2.0
- S/N ratio : > 46dB (AGC off)
- electronic shutter : 1/60 to 1/100000 sec.
- auto iris : AES only
- microphone : no
- standard board lens : f3.6mm / F2.0
- lens angle : 92±
- power source : DC 12V ″ 10% / 120mA (regulated)
- dimensions : 3.4"(Ø) x 2.8"

B/W CMOS GOOSENECK CAMERA — CAMZWGS

FEATURES :
- high resolution
- low current consumption
- gooseneck : 9.3"

SPECIFICATIONS :
- pick-up element : 1/3" B/W CMOS image sensor
- number of pixels : 330K
- resolution : 380 TV lines
- min. illumination : 1Lux / F1.4
- electronic shutter : 1/60 to 1/15000 sec.
- video output : 1Vpp / 75ohm
- built-in lens : 3.6mm
- lens angle : 92±
- power source : DC 12V ″ 10% / 50mA (regulated)

B/W CCD CAMERA WITH AUTOMATIC IR ILLUMINATOR — CAMZWIRPN

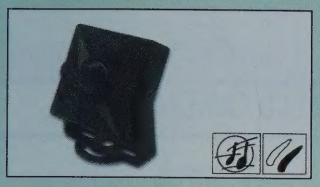


FEATURES :
- the infrared camera consists of a very sensitive B/W CCD module and an IR LED illuminator, which makes the device ideal for monitoring purposes, both by day and by night
- automatic light-source control (CDS CONTROL) /the infrared illuminator is activated automatically when the luminous intensity drops below 10lux
- this device is water-resistant and the effective range is ″ 50ft
- easy and convenient for installation
- built-in blower to cool the IR leds

SPECIFICATIONS :
- pick-up device : 1/3" image sensor interline transfer type
- pixels : 512(H) x 492(V) -EIA-
- resolution : 380 TV lines
- sync. system : internal
- scanning system : 525 lines -EIA-
- S/N ratio : > 45dB (AGC off)
- gamma correction : 0.45
- video output : 1.0Vpp / 75ohm
- frequencies : H = 15734Hz, V = 60Hz -CCIR-
- working temperature : -4±F to 122±F
- shutter speed : 1/60 to 1/10000 sec.
- lens : f6.0mm / F2.0
- min. illumination : 0Lux (IR illuminator on)
- lens angle : 56±
- range : 33ft max.
- luminous device : LEDs (840nm)
- housing : aluminum
- IP rating : IP33
- power source : DC 12V / 500mA (regulated) or AC 230V/ 50Hz
- dimensions : 4.1" x 5.1" x 6.3"
- weight : 31oz

B/W PINHOLE CAMERA

CAMZWMHAN

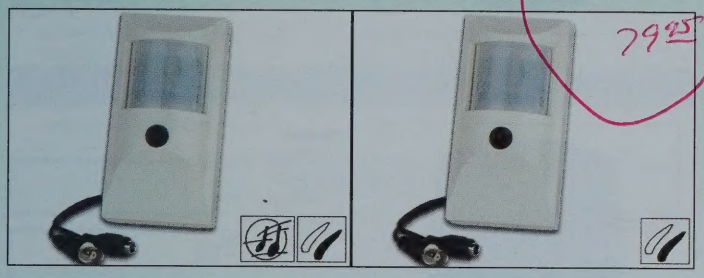


FEATURES :
- compact design
- high-resolution
- pinhole lens
- metal housing

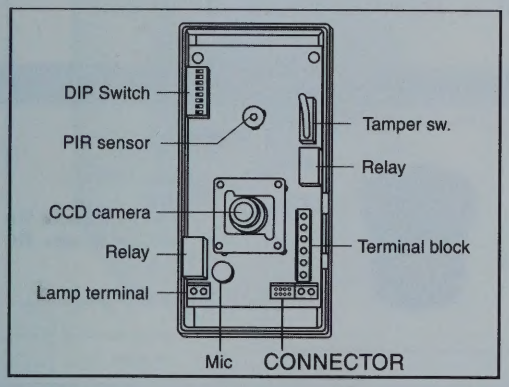
SPECIFICATIONS :
- pick-up element : 1/3" B/W CMOS image sensor
- number of pixels : 510(H) x 492(V) -EIA-
- resolution : 240 TV lines
- min. illumination : 1Lux / F1.4
- electronic shutter : 1/60 to 1/100000 sec.
- microphone : yes
- load impedance : 75ohm
- standard board lens : f3.7mm / F2.0
- lens angle : pinhole 90±
- power source : DC 12V ″ 10% / 120mA (regulated)
- dimensions : 1.4" x 1.4" x 0.6"

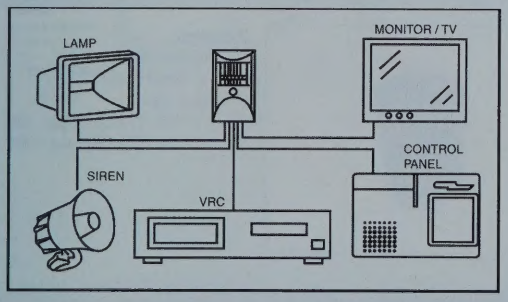
B/W CAMERA + PIR DETECTOR

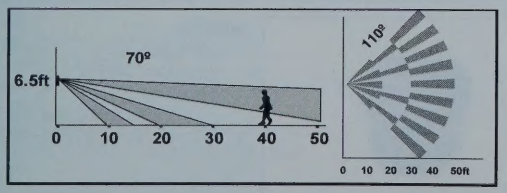
CAMZWPIRN



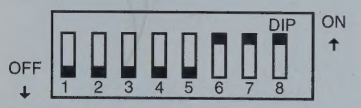
FEATURES :
- motion-activated PIR CCD camera
- alarm output to control panel, lamp, VCR or monitor
- video/audio signal monitoring
- built-in microphone and tamper switch
- alarm activation : 3 sec., 20 sec. or 60 sec.







No.	Code.	Description	ON	OFF
8				
7	Pluse	PIR pluse count	1 time	3 time
6	LED	Walk test LED	on	off
5	TIME	Turn - on time	----	----
4				
3	Video	Video output	on	auto
2				
1	TIME	Turn-on time	----	----



SPECIFICATIONS :
- camera :
  - pick-up element : 1/3" Samsung B/W CCD image sensor
  - number of pixels : 510(H) x 492(V) -EIA-
  - resolution : 380 TV lines
  - min. illumination : 0.5Lux / F2.0
  - S/N ratio : > 46dB (AGC off)
  - electronic shutter : 1/60 to 1/100000 sec.
  - load impedance : 75 ohm
  - standard board lens : f3.6mm / F2.0
  - lens angle : 92±
  - power source : DC 12V ″ 10%
  - current consumption : 120mA (stand-by), 210mA (activated)
  - dimensions : 4.9" x 2.7" x 1.7"
- pir :
  - PIR detection range : 110±/40ft (at 77±F)
  - lamp control load : 500W max.
  - PIR alarm output : N.C. / N.O., max. loading DC 30V/0.2A
  - PIR tamper switch : N.C., activated when cover is opened

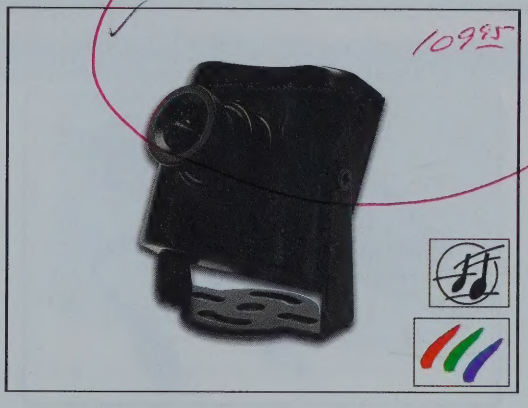
COLOR CAMERAS

COLOR CAMERAS WITH HOUSING

COLOR CAMERAS WITH HOUSING

COLOR CCD CAMERA

CAMCOLMHAN



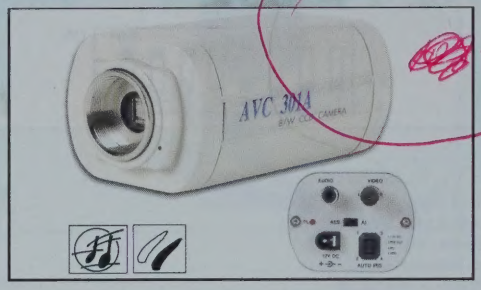
SPECIFICATIONS :
- pick-up element : 1/4" Toshiba color CCD image sensor
- number of pixels : 512(H) x 492(V) -NTSC-
- resolution : 330 TV lines
- min. illumination : 2 Lux / F2.0
- S/N ratio : > 45dB (AGC off)
- electronic shutter : 1/60 to 1/100000 sec.
- BLC function : auto detection
- white balance : automatic
- load impedance : 75ohm
- board lens : f3.6mm / F2.0
- lens angle : 70±
- power source : DC 12V ″ 10%
- current consumption : 130mA
- dimensions : 1.4" x 1.4" x 0.6"

D

PROFESSIONAL CCD CAMERAS

BLACK & WHITE CCD CAMERAS

1/3" CCD B/W CAMERA WITH AUTO IRIS — CAMSCB2N



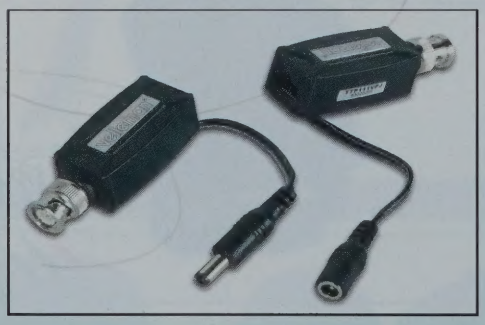
FEATURES :
- 1/3" CCD B/W camera
- auto iris control
- audio output

SPECIFICATIONS :
- pick-up element : 1/3" Samsung B/W CCD image sensor
- number of pixels : 500(H) x 582(V) -EIA-
- resolution : 380 TV lines
- min. illumination : 0.5Lux / F2.0
- S/N ratio : > 48dB (AGC off)
- electronic shutter : 1/60 to 1/100000 sec.
- auto iris : choice between AI (use with auto iris lens (video drive)) & AES (auto electronic shutter)
- microphone : high sensitivity
- load impedance : 75ohm
- lens : no lens
- power source : DC 12V ″ 10% / 120mA (regulated)
- operating temperature : 32± to 130±F
- weight : 12.7oz.
- dimensions : 4.3" x 2.4" x 2.0"

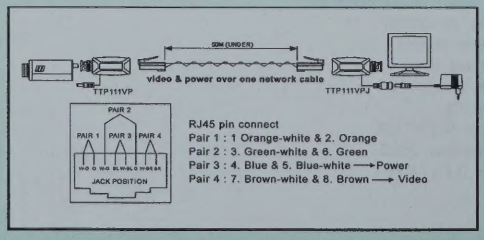
CAMERA ACCESSORIES

VIDEO TRANSCEIVER

UTP CABLE TRANSMISSION SET — CV027



FEATURES :
- transmits a monochrome (max. 75m) video signal or colour (max. 50m) video signal
- passive, no power required
- no coaxial cable necessary
- with power supply connector to power your camera via the UTP cable



SPECIFICATIONS :
- connector : male BNC / female RJ45
- max. distances :
  - black/white video signal : ″ 75m (250 ft)
  - colour video signal : ″ 50m (165ft)

ACCESSORIES FOR CCD CAMERAS

For CAMSCC2N () , etc...

CCTV WIDE-ANGLE LENS 4mm / f2.0 — CAML2B

SPECIFICATIONS :
- 1/3" format
- CS-mount
- focal length : 4.0mm
- aperture : f 2.0
- viewing angle : 80±

CCTV TELEPHOTO LENS 8mm / f2.0 — CAML3B

SPECIFICATIONS :
- 1/3" format
- CS mount
- focal length : 8.0mm
- aperture : 2.0mm
- viewing angle : 40±

ACCESSORIES FOR BOARD CAMERAS

Fit most board cameras (with or without housing) but are not suited for digital cameras.

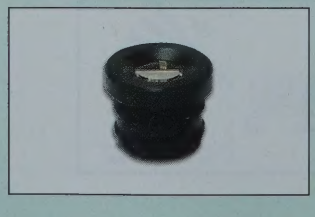
CCD & CMOS BOARD LENS 6.0mm/F2.0 — CAML5

SPECIFICATIONS :
- focal length : 0.24"
- iris / aperture : fixed F2.0
- viewing angle :
  - 1/3" CCD or CMOS sensor : 53±
  - 1/4" CCD or CMOS sensor : 40±

CCD & CMOS BOARD LENS 8.0mm/F2.0 — CAML6

SPECIFICATIONS :
- focal length : 0.31"
- iris / aperture : fixed F2.0
- viewing angle :
  - 1/3" CCD or CMOS sensor : 40±
  - 1/4" CCD or CMOS sensor : 30±

CCD & CMOS BOARD LENS 12.0mm/F2.0 — CAML7



SPECIFICATIONS :
- focal length : 0.47"
- iris / aperture : fixed F2.0
- viewing angle :
  - 1/3" CCD or CMOS sensor : 28±
  - 1/4" CCD or CMOS sensor : 21±

DUMMY CAMERAS

DUMMY ROTATING CAMERA WITH LED — CAMD3

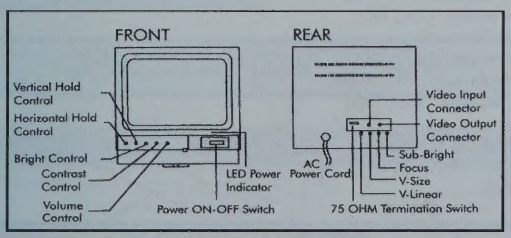
FEATURES :
- excellent imitation of a real security camera
- motorised pan movement
- no wiring needed
- with motion sensor
- LED lights when the device is turned on

SPECIFICATIONS :
- power supply : 3 1.5V AA batteries (not incl.)
- height : ca. 6.7"

MONITORS

MONITORS - BLACK/WHITE

12" B/W MONITOR WITH AUDIO — MONSB1



SPECIFICATIONS :
- picture tube : 12"
- CRT background color : B/W
- AC power source : mains
- power consumption : 30W
- input signal : 0.5-2.0Vpp composite video sync. negative
- input impedance : 75ohm or high impedance (switchable)
- bandwidth : 100Hz - 10MHz (3dB)
- video gain : 30dB
- resolution : centre : 1000 lines / corner : 800 lines
- linearity : H : 15% max. / V : 10% max.
- front panel controls : power switch (on/off), LED indicator, volume, contrast, brightness, V-hold, H-hold
- operating temperature : 14±F to 131±F
- rear panel controls : sub-bright, focus, V-size, V-linear, 75ohm-terminator
- audio input signal : 10 - 150mVpp
- sound output : 0.5W / 8ohm
- connectors : BNC
- weight : 21lb
- dimensions : 12.2" x 12.2" x 12.1"

MONITORS - COLOR

4" TFT LCD COLOR MONITOR — MONCOLHAE2N

FEATURES :
- volume, brightness and color control
- audio/video input
- with earphone output
- contents : - monitor - mounting bracket - A/V cable - DC power cable

SPECIFICATIONS :
- display : TFT active matrix system
- screen size : 4"
- resolution : 480(H) x 234(V)
- system : NTSC
- number of pixels : 112320
- video input signal : 1.0Vpp / 75ohm
- audio input signal : 30mVpp - 100mVpp
- backlight : cold cathode filament tube
- viewing angle : left, right : 45± / top : 30± / down : 10±
- viewing area : 3.2" x 2.4"
- operating temperature : 32±F to 140±F
- storage temperature : -4±F to 158±F
- power supply : DC 12V ″ 10% / < 700mA
- power consumption : 8.5W
- dimensions : 6.8" x 4.6" x 1.1"
- weight : 14.8 oz.

4" TFT LCD COLOR MONITOR WITH AUDIO — MONCOLHAN2

FEATURES :
- very efficient
- light, thin, vibration-resistant, easy to handle and compact
- bright colors, clear and stable picture, fully digitally controlled, last settings are saved when device is turned off
- audio amplifier

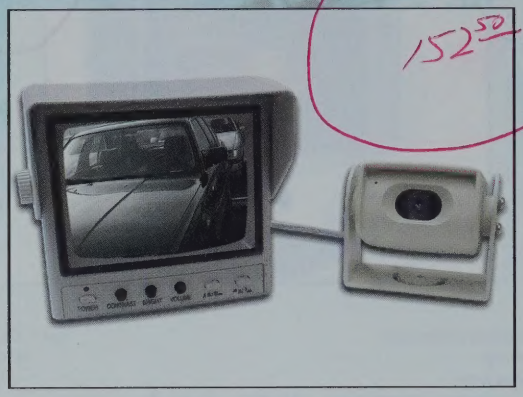
SPECIFICATIONS :
- LCD panel : TFT LCD
- display size : 4"
- number of pixels : 112320
- system : NTSC
- video input signal : 1.0Vpp / 75ohm
- audio input signal : 30mVpp - 100mVpp
- speaker : 50W / 8ohm
- external controls : power on/off, contrast, bright, color, digital volume controls
- voltage supply : DC 12V ″ 1V
- operating temperature : +23±F to +104±F
- power consumption : 4.5W max.
- weight : 21.2oz.
- dimensions : 5.6" x 4.1" x 1.8"

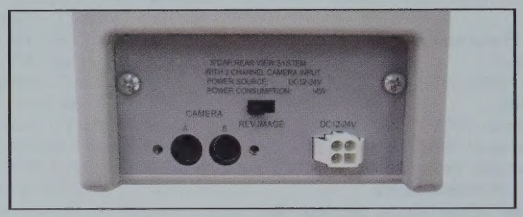
D

VIDEO MONITORING SYSTEMS

VIDEO BACKING SYSTEMS

2-CHANNEL B/W VIDEO BACKING SYSTEM + AUDIO ▸▸ CAMSET5A



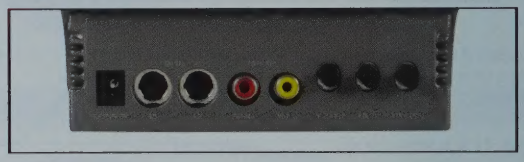


FEATURES :
- monitor :
  - dual camera input
  - built-in speaker
  - can be automatically activated when vehicle is shifted into reverse
- waterproofed camera :
  - with built-in microphone and 6ft cable
- 66ft cable included (mini-DIN connectors)
- plastic sun visor
- mounting bracket for monitor and 4 fixing screws
- in option :
  - camera : CAM11
  - spare cable : CAMSET/SPC2
  - extension cable : CAMSET/SPC1

SPECIFICATIONS :
- monitor :
  - size of display : 5" CRT with sun visor
  - scanning frequency : 15625Hz(H) x 60Hz(V) -EIA-
  - video input : 1Vpp 75ohm
  - resolution : 500 TV lines
  - input voltage : DC 12-24V
  - case : ABS plastic
  - operating temperature : 32±F to 104±F
  - dimensions : 5.6" x 7.5" x 5.4"
- camera :
  - pick-up element : 1/3" CCD
  - scanning system : 625 TV lines -EIA-
  - number of pixels : 512 x 582
  - lens : f3.6mm/F2.0
  - resolution : 380 (H) lines
  - video output : 1Vpp 75ohm
  - min. illumination : 0.3Lux
  - input voltage : DC 9.5-14V
  - case : zinc-based
  - operating temperature : 14±F to 122±F
  - dimensions : 3.5" x 2.6" x 2.2"

VIDEO MONITORING SYSTEMS FOR HOME USE

2-CHANNEL B/W VIDEO MONITORING SYSTEM AND 2-WAY AUDIO ▸▸ CAMSET2CU

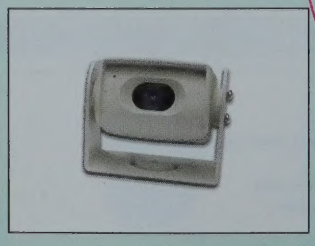


FEATURES :
- 5.5" flat B/W picture tube (rectangle)
- 2 camera inputs (mini-DIN)
- automatic and manual sequence function
- switching time : 1 - 30sec.
- video and audio output (RCA)
- intercom function (camera - monitor)
- CMOS camera with IR LED for improved night vision
- supplied with cable 20m, adjustable camera base + power adapter

SPECIFICATIONS :
- monitor :
  - system : NTSC
  - picture tube : 5.5"
  - scanning frequency : 15625kHz(H) x 60Hz(V) - NTSC-
  - audio output : 0.1Vpp (75 ohm)
  - video output : 1Vpp (75 ohm)
  - audio power output : 0.5W (8 ohm)
  - resolution at centre : 300 TV lines
  - power supply : 12V / 1A
  - power output : 10V / 300mA
  - power consumption : 15W
- camera :
  - image : 1/4" B/W CMOS
  - scanning system : 2:1 interlace
  - resolution : 300 TV lines
  - shutter speed : 1/50 to 1/6000 sec.
  - camera correction : automatic
  - max. range IR LEDs : 1.1 to 2.2yd
  - mic sensitivity : 1.1 to 2.2yd
  - white balance : auto
  - current consumption : 150mA
  - video signal output : 1Vpp (75 ohm)
- operating temperature : 32±F to 104±F
- dimensions :
  - monitor : 6.1" x 5.9" x 8.7"
  - camera : 2.6" x 2.4" x 1.6"
- weight : 6.6lbs

OPTIONAL CAMERAS

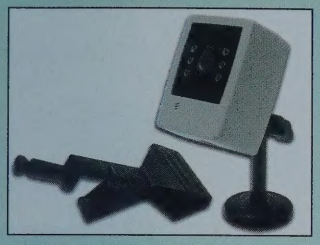
OPTIONAL CAMERA FOR CAMSET5A ▸▸ CAM11



FEATURES :
- for : CAMSET5A (see p.110)
- in option :
  - spare cable : CAMSET/SPC2
  - extension cable : CAMSET/SPC1 (see p.111)

SPECIFICATIONS :
- see : CAMSET5A
- 66ft cable included

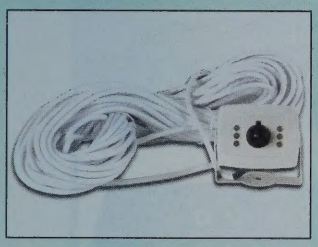
OPTIONAL CAMERA FOR CAMSET22U WITH IR LEDS ▸▸ CAM10U



FEATURES :
- comes with 66ft cable and 2 brackets

SPECIFICATIONS :
- water-resistant : yes
- IR LEDs : yes
- lens : f3.8mm / F1.6
- lens angle : 90±
- min. illumination : 0.1Lux
- video output : 1.0Vpp / 75ohm
- audio output : 0.5Vrms / 10Kohm
- operating temperature : 4±F to 104±F
- power supply : DC 9-14V / 150mA

OPTIONAL CAMERA FOR CAMSET2C WITH IR LEDS ▸▸ CAM16



FEATURES :
- for : CAMSET2C

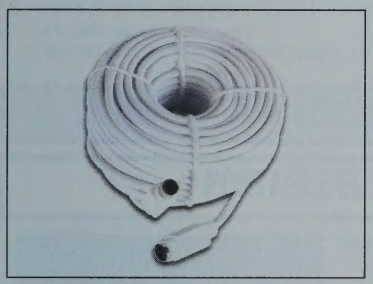
SPECIFICATIONS :
- see CAMSET2C

SPARE ACCESSORIES

FEATURES :
- for : CAMSET2C

SPECIFICATIONS :
- cable length : 66ft
- connectors : 6-pins mini-DIN

part name	connectors	length	color
CAMSET/SPC1	6-pins mini-DIN connectors, male to female	66ft	gray



part name CAMSET/SPC1

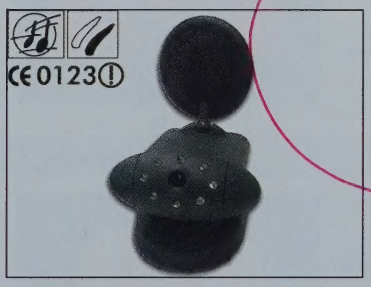
WIRELESS A/V TRANSMISSION

2.4GHz WIRELESS B/W SECURITY SYSTEM - 4 CHANNELS ▸▸ CAMSETW1U

FEATURES :
- monitor can be hooked up to a VCR for recording
- built-in microphone for audio monitoring
- frequency modulation (FM) ensures great picture and sound quality
- built-in IR illumination provides images in the darkest location
- video function on monitor can be turned off for audio monitoring only
- range up to 110yd
- view up to four cameras via a single monitor ; manual or auto scan for multiple cameras ; adjustable scan time interval : 4 or 8 seconds
- easy installation and connection
- camera sits on a shelf or tabletop, or may be permanently mounted on a wall
- portable system : for the ultimate in portability, the camera and monitor are both mains or battery powered
- both PAL and NTSC compatible
- 2.4GHz eliminates interference and provides superior quality to 900MHz, 433MHz RF, or IR wireless devices
- directional high-gain antennas reduce interference and provide superior performance
- additional camera : AVMOD9BCU

SPECIFICATIONS :
- camera :
  - frequency : 2.4 ~ 2.4835GHz
  - range : 300 ft clear line of sight
  - antenna : directional circular-polarized
  - A/V modulation/demodulation method : FM
  - IR LEDs : 8 pcs
  - image sensor : 1/4" CMOS image sensor
  - effective pixels : 352(H) x 288(V) -CCIR-
  - lens : F3.6mm/F2.0
  - S/N ratio : >46dB
  - microphone : built-in
  - case color : gray
  - dimensions : 3.9" x 3.5" x 5.9"
  - weight : 10.6oz (without batteries)
  - power supply : DC 9V, 300mA or 8 x 1.5V AA-batteries
  - operating temperature : 32±F to 104±F
- monitor :
  - frequency : 2.4 ~ 2.4835GHz
  - range : 300 ft clear line of sight
  - antenna : directional circular-polarized
  - A/V mod/demod. method : FM
  - max. audio output : 800mW
  - resolution : 350(V) x 300(H) lines
  - luminance : 80cd/m² max.
  - current consumption : 900mA
  - case color : gray
  - dimensions : 5.9" x 7.5" x 6.7"
  - weight : 50oz
  - power supply : DC 13.5V, 900mA or 10 x 1.5V C-batteries
  - operating temperature : 32±F to 104±F

WIRELESS B/W CAMERA FOR CAMSETW1U ▸▸ AVMOD9BCU



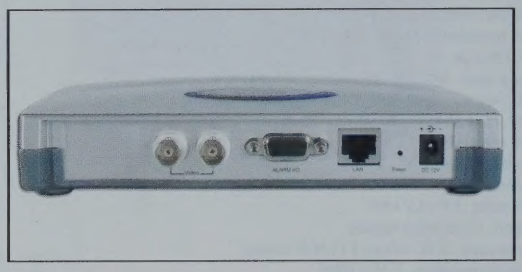
FEATURES :
- for : CAMSETW1U (see p.111)

VIDEO APPLICATIONS

2-CHANNEL VIDEO WEB SERVER

VWS2

The Video Web Server can be connected to the internet. You do not need a PC because the VWS2 has its own IP address. It enables you to remote monitor and control most of your CCTV series products via the internet. The software package is extensive and user-friendly.



FEATURES :

- compatible with most CCTV products : use any video source through the VWS2
- Auto Network Reconnection (ANR)
- duplex function : simultaneous recording and playback possible
- firmware upgradeable through FTP site
- auto e-mail warning in case of external alarm
- intelligent non-stoppable recording after ANR
- direct connection or connection via LAN or internet
- unique video system
- user-friendly interface
- benefits :
  - upgrade traditional CCTV system to IP surveillance
  - easy to install and use via the internet
  - easy to watch and record images
  - can be used from anywhere via network or the internet
  - advanced image compression facilitates transmission and storage
  - real-time image watching and recording
  - simultaneous remote monitoring and controlling by multiple users
- applications :
  - transport facilities : airports, train stations, ports, ...
  - high security areas : research centre, nuclear facility, ...
  - construction sites
  - POS (Point of Sale) and live promotion
  - medical emergency sites and hospitals
  - banks
  - traffic control management
  - nursery and retirement homes
  - parking lots
  - production facilities such as factories
- software and manual included on cd
- good knowledge of network and internet applications required

SPECIFICATIONS :

- channels : 2 channels for analogue & digital devices
- video input : 1.0Vpp, 75 ohm, composite, BNC connector
- connection : RS-485 port for alarm (I/O)
- network interface : Ethernet (10/100 Base-T)
- image compression : jpg
- video adjustments : brightness, contrast, saturation, quality level adjustment
- protocols : TCP/IP, ICMP, SMTP
- hardware :
  - CPU : 32 bits RISC processor
  - ROM : 2Mb FlashROM
  - RAM : 16Mb SDRAM
  - 1 x RJ-45 for 10/100 Mbps Ethernet
  - LEDs to indicate Link/Act status
  - GPIO with e-mail trigger
- resolution : VGA : 640x480 / CIF : 320x240
- performance :
  - video throughput : up to 15 frames / second
  - network throughput : up to 700kb/s
- trigger & action :
  - triggered by GPIO input
  - action : image is e-mailed to specified addresses
- software upgrade : via FTP site
- security : 3-layer password protection
- power supply : DC 12V / 500mA (adapter 230V-12V incl.)

MANUAL VIDEO/AUDIO SWITCH BOX

VMS4

Connect 4 audio/video inputs to 2 audio/video outputs e.g. 1 x VCR, 1 x videodisc player, 1 x satellite receiver and 1 x camcorder to 1 x stereo TV and 1 x VCR.

SPECIFICATIONS :

- video in/out terminals : 4 input / 2 output connectors (RCA)
- audio in/out terminals : 4 input / 2 stereo output connectors (RCA)
- temperature range : -14±F to +104±F
- dimensions : 2.0" x 4.7" x 8.3"

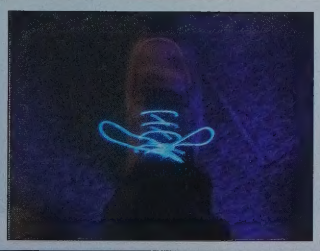
DECORATIVE LIGHTING & PARTY LIGHTS

MULTIFUNCTIONAL INVISIBLE INK PEN ▸▸ VDLIIP

FEATURES :
- the words you write are invisible in normal daylight, but they appear under the light of the pen
- can be used to detect counterfeit money
- suitable for a variety of fun applications : secret messages, security markings, party gadget, ...

ELECTROLUMINESCENT ACCESSORIES

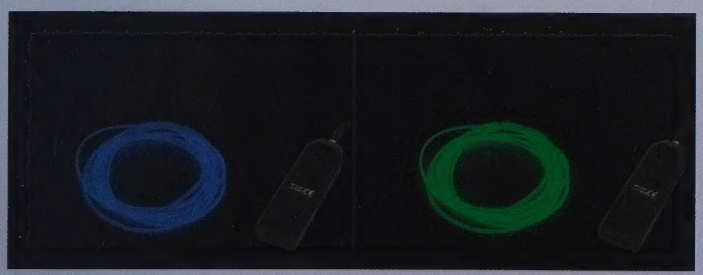
PORTABLE EL WIRE SET



FEATURES :
- electroluminesence (EL) wire, extremely flexible
- usage : on a bike, in a car, decoration, party, theatre, decoration, computer, safety, ...
- 3 functions : continuous on, slow flash, quick flash

SPECIFICATIONS :
- wire specifications : Ø0.09" / length : 3.3ft
- power supply : 2 1.5V AA batteries (not ind.)
- current consumption : 100mA

part name	color
NWRB15	blue
NWRG15	green
NWRR15	green



part name NWRB15 | part name NWRG15

part name NWRR15

BLINKING LED PINS

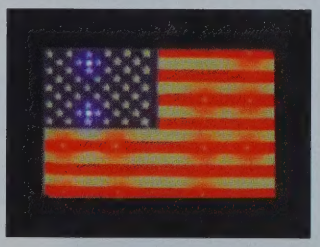
Blinking LED pins with magnet fixture. Batteries included.

FLASHING SNOWMAN PIN ▸▸ LFB1

FEATURES :
- magnet mounting

SPECIFICATIONS :
- 2 blue LEDs + 3 red LEDs
- height : 1.4"
- power supply : 2 x CR927

FLASHING USA FLAG-STARS & STRIPES ▸▸ LFB10

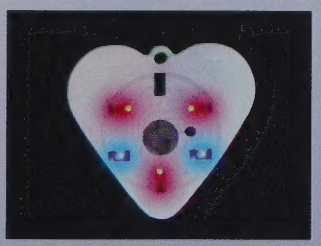


SPECIFICATIONS :
- 2 blue LEDs + 10 red LEDs

FLASHING CANADIAN FLAG ▸▸ LFB11

SPECIFICATIONS :
- 2 blue LEDs + 10 red LEDs

FLASHING HEART PIN ▸▸ LFB3



FEATURES :
- magnet mounting

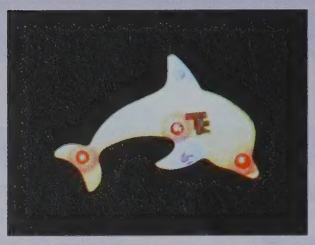
SPECIFICATIONS :
- 2 blue LEDs + 3 red LEDs
- height : 0.9"
- power supply : 2 x CR927

FLASHING SANTA CLAUS ▸▸ LFB7

FEATURES :
- magnet mounting

SPECIFICATIONS :
- 2 blue LEDs + 4 red LEDs
- height : 1.4"
- power supply : 2 x CR927

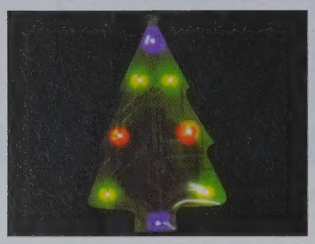
FLASHING DOLPHIN ▸▸ LFB8



FEATURES :
- magnet mounting

SPECIFICATIONS :
- 1 blue LED + 4 red LEDs
- dimensions : 1.2" x 0.6"
- power supply : 2 x CR927

FLASHING XMAS TREE ▸▸ LFB9

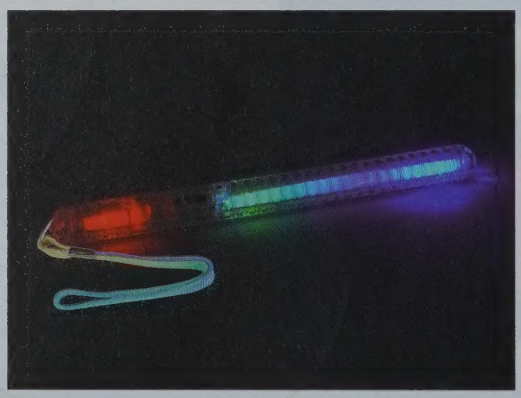


FEATURES :
- magnet mounting

SPECIFICATIONS :
- 2 blue LEDs + 2 red LEDs + 4 yellow LEDs
- height : 1.2"
- power supply : 2 x CR927

FLASHING WANDS

FLASHING MULTICOLOURED WAND ▸▸ LFRGB



FEATURES :
- 7 different patterns

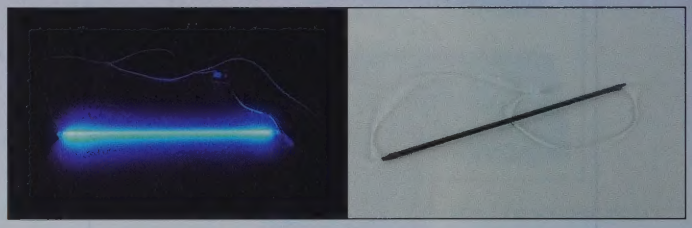
SPECIFICATIONS :
- included power supply : 3 x 1.5V button cells V13GA
- optional power supply : V13GAC or V357C

COLD-CATHODE FLUORESCENT LAMPS

COLD-CATHODE FLUORESCENT LAMPS 12"

SPECIFICATIONS :
- dimensions : 12" x Ø0.16"
- tube voltage : 180 ~ 800V
- average brightness : 15000cd/m²
- average life : 15.000hrs
- for use with : FLPS (see p.114) power supply

part name	color
FLB	blue
FLBL	black light
FLG	green
FLP	pink
FLW	white
FLY	yellow

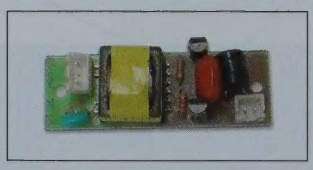


part name FLB | part name FLBL

part name FLG | part name FLP

part name FLW | part name FLY

POWER SUPPLY FOR 12" COLD-CATHODE FLUORESCENT LAMPS ▸▸ FLPS



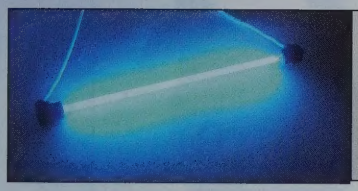
FEATURES :
- for use with cold-cathode fluorescent lamps of 12"

SPECIFICATIONS :
- input voltage : 12V
- output voltage : 180-800V
- current consumption : approx. 375mA
- dimensions : 61 x 21mm (height : 15mm)

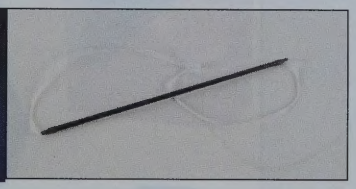
COLD-CATHODE FLUORESCENT LAMPS, 4"

Specifications :
- dimensions : 3.9" x Ø0.16"
- tube voltage : 180 ~ 800V
- average brightness : 15000cd/m²
- average life : 15000hrs
- for use with : FLPS1 (see p.115) power supply

part name	color
FLB1	blue
FLBL1	blacklight
FLG1	green
FLP1	pink
FLW1	white
FLY1	yellow



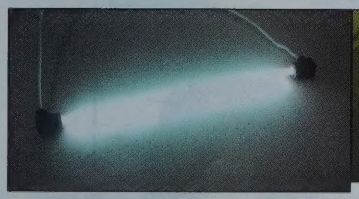
part name FLB1



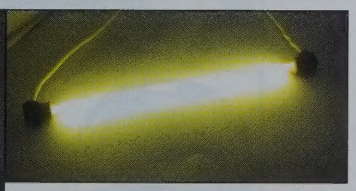
part name FLBL1

part name FLG1

part name FLP1

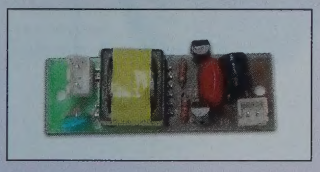


part name FLW1



part name FLY1

POWER SUPPLY FOR 4" COLD-CATHODE FLUORESCENT LAMPS ▸▸ FLPS1



Features :
- for use with cold-cathode fluorescent lamps of 4"

Specifications :
- input voltage : 12V
- output voltage : 180-800V
- current consumption : approx. 375mA
- dimensions : 61 x 21mm (height : 15mm)

LIGHT STICKS

LIGHT STICK PARTY PACK 1 - LIGHTSTICK ▸▸ VDLILPP1

Features :
- 4 light sticks
- easy to activate
- non-toxic
- with hanger

Specifications :
- glow time : 4-8 hours
- dimensions : Ø0.4" x 5.9"

LIGHT STICK NECKLACE PACK Ø0.5 x 27.5cm - MIXED COLOURS (24 bags/BOX) ▸▸ VDLILSNL

Set of 2 coloured light sticks per pack.

Features :
- sold in promo boxes containing 24 packs of differently coloured sticks

Specifications :
- dimensions : Ø0.5 x 27.5cm

LIGHT STICK PARTY PACK 2 - BRACELET ▸▸ VDLILPP2

Features :
- 6 three-color bracelets - easy to activate - non-toxic

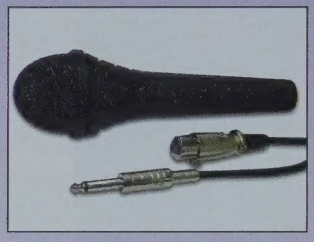
Specifications :
- glow time : 4-8 hours - dimensions : Ø0.2" x 0.5" x 7.9"

E

MICROPHONES

PROFESSIONAL MICROPHONES

PROFESSIONAL DYNAMIC MICROPHONE-BLACK — MICPRO1



SPECIFICATIONS :
- unidirectional
- frequency response : 50 - 12500Hz
- sensitivity : -72 ″ 3dB
- impedance : 600ohm
- 13ft cable with 1/4" plug
- weight : 17.6oz

PROFESSIONAL DYNAMIC BLACK MICROPHONE WITH CARRY CASE — MICPRO7

SPECIFICATIONS :
- frequency response : 50-15kHz
- sensitivity : approx -73dB
- impedance : 600 ohm ″ 30%
- cable length : 6m
- cable Ø : 6mm
- weight : 230g

HEADPHONES

DE LUXE FOLDABLE DIGITAL STEREO HEADPHONES - NECK TYPE — HPD10

FEATURES :
- compact and foldable design for easy storage and practical use
- super bass sound
- 30mm Super Bass drivers
- soft-cushioned ear pads
- 3.5mm stereo plug

SPECIFICATIONS :
- frequency : 25 - 20000Hz
- sensitivity : 101dB at 1mW (1kHz)
- impedance : 32 ohm
- maximum power input : 100mW

DE LUXE DIGITAL STEREO HEADPHONES — HPD11

FEATURES :
- self-adjusting headband

SPECIFICATIONS :
- speaker : Ø 40mm dynamic type
- impedance : 32 ohm
- maximum power : 600mW
- frequency : 20-20000Hz
- sensitivity : 105dB ″ 3dB (at 1kHz)
- input connection : gold-plated 3.5mm stereo plug & 6.3mm adapter
- cord length : 2m
- weight : 250g (without cord)

DE LUXE DIGITAL STEREO HEADPHONES — HPD13

FEATURES :
- self-adjusting headband

SPECIFICATIONS :
- speaker : Ø 40mm dynamic type
- impedance : 32 ohm
- maximum power : 600mW
- frequency : 20-20000Hz
- sensitivity : 105dB ″ 3dB (at 1kHz)
- input connection : gold-plated 3.5mm stereo plug & 6.3mm adapter
- cord length : 2m (single output cord)
- weight : 185g (without cord)

DE LUXE MONO DJ HEADPHONES

HPD14

SPECIFICATIONS :

- speaker : Ø 50mm dynamic type
- impedance : 32 ohm ″ 10%
- maximum power : 500mW
- frequency : 20 to 20000Hz
- sensitivity : 105dB ″ 3dB (at 1kHz)
- input connection : gold-plated 6.3mm mono plug (90±)
- cord length : 1.5m spiral
- colour : silver grey

DIGITAL HEADPHONES

HPD6

FEATURES :

- this comfortable "behind the neck" model does not muss your hair
- streamlined, compact and lightweight design for active users
- OFC cable with gold-plated plug for the avid digital music fan

SPECIFICATIONS :

- driver unit : Ø 1.2"
- magnet : NdFeB
- frequency range : 20 - 20000Hz
- impedance : 32 ohm
- sensitivity : 103dB
- max. input power : 100mW
- cable length : 4ft with 1/8" plug, 90±

F

SPEAKER ACCESSORIES

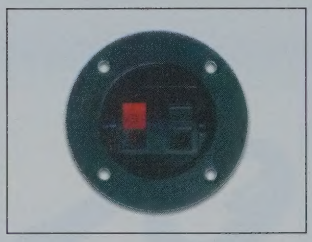
LOUDSPEAKER CONNECTORS

LOUDSPEAKER CONNECTION TERMINALS

WITH PUSH BUTTONS

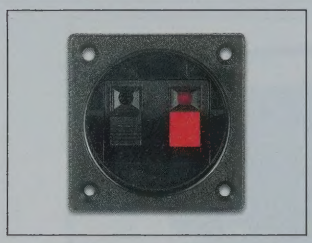
FEATURES :
- black and red push-button connectors
- accept wires up to 0.1" sq.

LOUDSPEAKER CONNECTION TERMINAL - ROUND ▸▸ LSC1



SPECIFICATIONS :
- dimensions : Ø 3"

LOUDSPEAKER CONNECTION TERMINAL - SQUARE ▸▸ LSC2

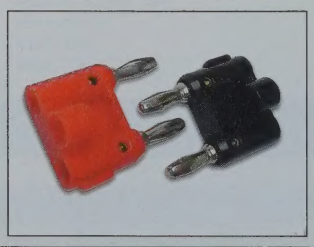


SPECIFICATIONS :
- dimensions : 2.2" x 2.2"

LS TERMINALS

FEATURES :
- gold-plated
- for professional loudspeakers
- wires up to 0.3" Ø

DUAL BANANA PLUGS



part name	color
CM13B	black
CM13R	red

LOUDSPEAKER CABLES

AUDIO CONNECTORS

part name	color	size	inner conductor	outside Ø	length (on reel)
K/LOW1	red/black	2 x 0.030" sq.	0.007" x 24 x 2	0.087" x 2	82ft

part name K/LOW1

PUBLIC ADDRESS SYSTEMS

MEGAPHONES

POWER MEGAPHONE 10W ▸▸ M10M

Hand-held megaphone with shoulder strap. With siren, on/off switch and volume control. ABS.

SPECIFICATIONS :
- range : "200m depending on operating conditions
- power supply : 4 x 1.5V D-batteries (not incl.)
- weight : 0.9kg
- dimensions : Ø165x 260mm

24.95

POWER MEGAPHONE 25W ▸▸ M25SM

Hand-held megaphone with shoulder strap. With siren/fog horn. Detachable anti-howl microphone with coiled lead, on/off switch.

SPECIFICATIONS :
- handle with on/off switch
- separate microphone with lock function
- ABS
- choice between siren or speech
- with carrrying strap
- rated power : 25W
- range : 600m
- microphone sensitivity : -36"1dB (0dB = 1V/pa)
- frequency response : 500 - 8KHz
- power supply : 12Vdc (6 x battery LR20C not incl.)
- net weight : 1500g
- dimensions horn : Ø240mm x 330mm
- length : 355mm

39.95

D cell

electronics123 5807

MEGAPHONE 5W

M5

Megaphone with press-to-talk switch and volume control. ABS.

SPECIFICATIONS :
- range : 0.2 - 0.3miles depending on operating conditions
- power supply : 6 x 1.5V AA-batteries (not incl.)
- weight : 22oz.
- dimensions : Ø5.9" x 9.3"

POWER MEGAPHONE 25W

M25S

Hand-held megaphone with shoulder strap. With siren/horn. On/off switch and volume control. ABS.

SPECIFICATIONS :
- range : 0.3-0.45 miles depending on operating conditions
- power supply : 8 x 1.5V C-batteries (not incl.)
- weight : 60oz
- dimensions : Ø9.1" x 13.4"

~~$63.50~~

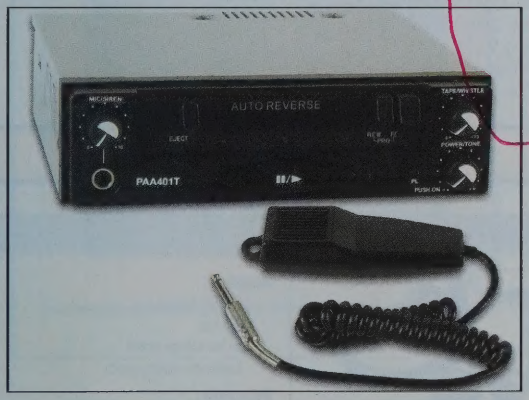
PA SYSTEMS

PA AMPLIFIERS

CAR PA AMPLIFIERS

PA AMPLIFIER 40W WITH 1 MIC INPUT, WITH CASSETTE PLAYER

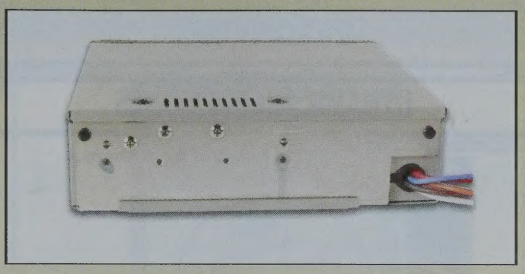
PAA40T



145.95 X

Ideal for permanent installation in automobiles or boats. With a built-in auto reverse cassette deck. This compact PA amplifier is easy to install in most vehicles and comes with accessible front panel controls. Also included is a U-shaped suspension bracket to firmly support the unit, particularly when mounted under the dash. Supplied with machine screw hardware to facilitate installation in a variety of locations. Designed for DC operation from a 12V-battery. A slim, hand-held, unidirectional paging microphone is also included. Thanks to the supplied holder, the microphone can hang conveniently near the amplifier for quick access.

FEATURES :
- 1 microphone input with separate volume control
- built-in auto reverse cassette deck with pause function
- unidirectional microphone with on/off switch is included
- with siren and fog horn signal



SPECIFICATIONS :
- output power max. : 40W
- frequency response : 100-15000Hz, " 3dB
- input/sensitivity :
  - input 1 (mic) : -51dBV, 600 ohm
- THD : <= 1%
- output :
  - ohm : 4 ohm or 8 ohm
- controls :
  - mic and tape volume adjustment, tone adjustments
- power supply : 13.2Vdc (10 to 15Vdc)
- dimensions : 178 x 50 x 182mm
- weight : 1.8kg

PA SPEAKER SYSTEMS

ALUMINIUM HORN SPEAKERS

Very efficient aluminium horn speakers, impedance 8 ohm. Easy to install.

SPECIFICATIONS :
- material : aluminium
- colour : dark grey

part name	type	rated power	frequency response	impedance	SPL	dimensions	weight
PAH4012T	round (12")	40W	250 - 6000Hz	8 ohm	106dB	Ø12.4" x 11.1"	67 oz.

part name PAH4012T

24.95 Our Cost

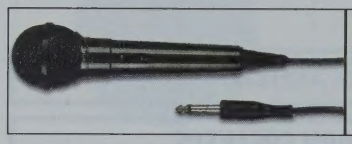
Qty 4

MICROPHONES

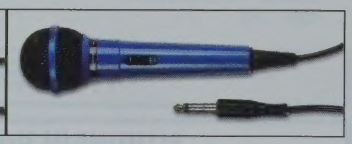
DYNAMIC MICROPHONES

Unidirectional dynamic microphones.

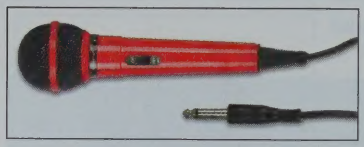
part name	frequency response	sensitivity	impedance		weight	color
MIC1B	100 - 12500Hz	-75 ″ 3dB	600ohm ″ 30%	10ft cable with 1/4" plug	5.8oz.	black
MIC1BL	100 - 12500Hz	-75 ″ 3dB	600ohm ″ 30%	10ft cable with 1/4" plug	5.8oz.	blue
MIC1R	100 - 12500Hz	-75 ″ 3dB	600ohm ″ 30%	10ft cable with 1/4" plug	5.8oz.	red



part name MIC1B



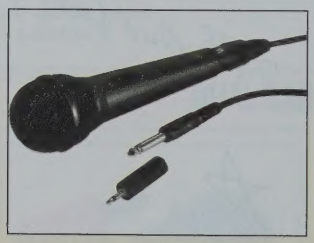
part name MIC1BL



part name MIC1R

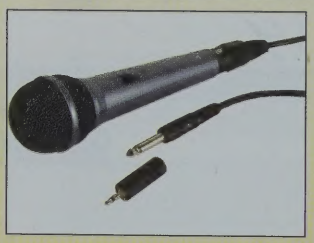
PROFESSIONAL DYNAMIC MICROPHONES

DYNAMIC MICROPHONE ▸▸ MIC3B



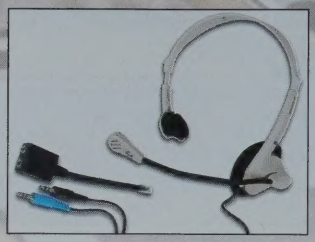
SPECIFICATIONS :
- frequency response : 50-13KHz
- sensitivity : -50 ″3dB
- impedance : 600 ohm ″30%
- cable length : 3m with 6.35mm plug
- color : black
- weight : 155g

DYNAMIC MICROPHONE ▸▸ MIC3BL



SPECIFICATIONS :
- frequency response : 50-13KHz
- sensitivity : -50 ″3dB
- impedance : 600 ohm ″30%
- cable length : 3m with 6.35mm plug
- colour : blue
- weight : 155g

TELEPHONE & MULTIMEDIA HEADSET WITH MICROPHONE ▸▸ HSMT1

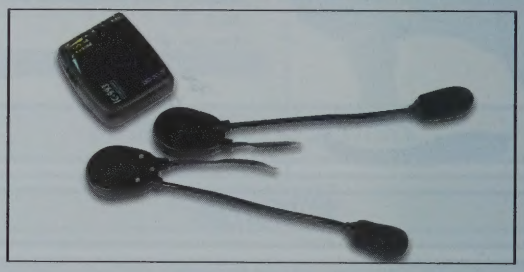


FEATURES :
- mono headphone with Ø.11" drive unit
- with microphone
- RJ-type connection adapter provided for telephone connection

SPECIFICATIONS :
- headphones :
  - drive unit : 1.1" Ø
  - cable length : 5.6ft
  - max. input power : 30mW
  - impedance : 150ohm
  - 1/8" plug
- microphone :
  - type : electret condenser
  - directivity : omnidirectional
  - 1/8" plug

SPECIAL HEADPHONES

MOTORCYCLE INTERCOM SET ▸▸ INTERCOM



Excellent quality, versatile and light model. Has the most advanced design among of its class.

SPECIFICATIONS :
- power source : 2 x 1.5V AAA-batteries (not incl.)
- current consumption : in use : 30mA max. / standby : 8mA
- S/N ratio : more than 60 dB
- operating temperature : -4±F to 122±F
- rated output : 150mW
- frequency response : 20 - 60000Hz ″ 3dB
- input circuit : 62dB ″ 1dB (< 2.2Kohm unbalanced)
- output circuit : 32ohm 150mW, 84dB ″ 3dB
- dimensions : 2.5" x 2.2" x 1.0"
- dimensions (earphone + microphone) : 3.1" x 2.2" x 0.9"
- weight : 1.1oz

EARPHONES

DIGITAL SOUND IN-EAR PHONES (1248F) ▸▸ HPEV1

FEATURES :
- Ø 0.51" drive unit
- clip type
- in-line volume control
- leatherette carrying pouch

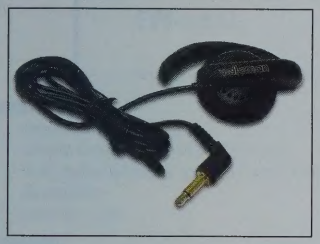
SPECIFICATIONS :
- drive unit : Ø 0.51"
- magnet : ferrite
- frequency range : 20 - 20000Hz
- impedance : 32ohms
- sensitivity : 95dB
- max. input power : 30mW
- cable length : 6.6ft
- 1/8" chrome-plated plug

STEREO EARPHONES ▸▸ HPL3

FEATURES :
- comes with : 1/4"/1/8" adapter and 2 foam pads

SPECIFICATIONS :
- transducer type : dynamic
- impedance : 32 ohm
- power : max. 50mW
- sensitivity : 102dB
- frequency range : 20-20000Hz
- weight : 0.76oz

HEADPHONE WITH 1 EARCUP ▸▸ HPSS1



FEATURES :
- Ø 1.1" drive unit

SPECIFICATIONS :
- drive unit : Ø 1.1" mylar speaker with an isotropic ferrite magnet
- frequency response : 20 - 18000Hz
- impedance : 32ohms
- sensitivity : 101dB
- 1/8" nickel-plated plug
- cable length : 4ft
- max. power input : 100mW

AUDIO AND CD ACCESSORIES

AUDIO & CD CLEANING PRODUCTS

AUDIO/VIDEO/CD CLEANING SET ▸▸ CP388

FEATURES :
- contents :
  - audiotape head and videotape head cleaners
  - CD lens cleaner with English audiotape guide
  - 2 tubes of head cleaning fluid

CD/CD-ROM/DVD LENS CLEANING KIT ▸▸ CPCD7

FEATURES :
- for dry cleaning
- with cleaning CD and software

SCREEN CLEANING CLOTH ▸▸ CPCD15

FEATURES :
- made of special microfibre tissue
- leaves neither scratches nor flocks, no need for fluid solution
- easily removes dust, fingerprints, oil, etc
- cleans CD/CD-ROM/DVD disks, LCD screens, camera lenses, ...

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FLASH LIGHTS

FLASH LIGHTS

TORCH 2 x AA RED — ZL302R

FEATURES :
- turn the head to switch the device on/off
- aluminium alloy
- colour : red
- high-intensity krypton bulb
- adjustable beam
- durable abrasion-resistant and anodised finish
- water- and shock-resistant
- comes with pouch
- spare bulb : LAMP302

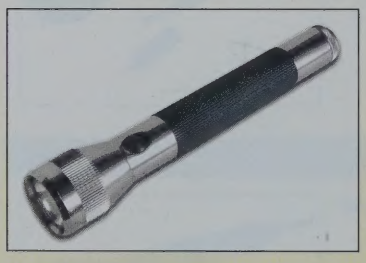
SPECIFICATIONS :
- batteries : 2 x AA (not incl.)
- dimensions : 28 x 145mm

TORCH 2 x D — ZL102

FEATURES :
- material : aluminium
- waterproofed, non-submersible
- sealed on/off switch
- super bright krypton bulb (spare bulb incl.)
- shatterproof polycarbonate lens
- focusing range : from spotlight to floodlight

SPECIFICATIONS :
- with on/off switch
- batteries : 2 x D- or R20G-batteries (not incl.)
- dimensions : 55 x 255mm
- in option : ZL100BL
- spare bulb : LAMP102

HEAVY-DUTY ALUMINIUM TORCH 3 X D — ZL103C



FEATURES :
- waterproofed/non-submersible
- sealed on/off switch
- super bright krypton bulb (spare bulb LAMP103 included)
- shatterproof polycarbonate lens
- focus : from spotlight to floodlight
- spare bulb : LAMP103

SPECIFICATIONS :
- power supply : 3 x D batteries (not incl.)
- dimensions : 55 x 320mm
- in option : ZL100BL

TORCH 5 x D — ZL105

FEATURES :
- aluminium alloy
- high-intensity krypton bulb
- focusing range : spot to flood
- durable, anodised, abrasion-resistant finish
- water- and shockproof
- packed in blister with spare bulb
- spare bulb : LAMP105

SPECIFICATIONS :
- with on/off switch
- batteries : 5 x D-battery (not incl.)
- dimensions : 55 x 490mm
- in option : ZL100BL

CLIPLIGHT — ZLCLIP2

FEATURES :
- head rotates 180±
- with clip for hands-free use

SPECIFICATIONS :
- batteries : 2 x AA-battery (not incl.)
- supplied in blister
- dimensions : 5.1" x 1.3" x 1.5"

LED LIGHTS

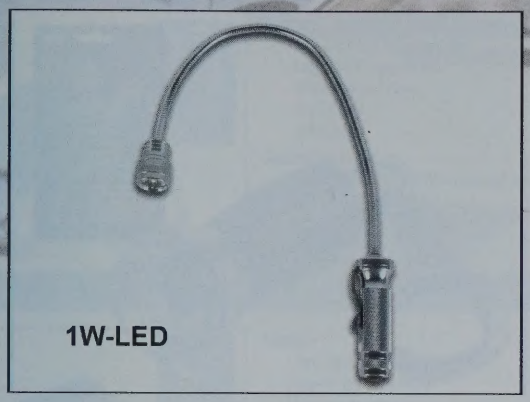
LED LAMPS : New generation of lamps : miniature models, do not heat up, better shock resistance, ultrabright light, life 100,000hrs, batteries consume 50 to 100 times less power

ALUMINIUM HAND TORCH WITH WHITE LED 1W — ZL1113A

FEATURES :
- hand torch with LED 1W
- new LED technology : 10 times brighter than standard LEDs
- long-life LED : 100.000hrs
- water-resistant
- autonomy :
  - battery : 4 hrs

SPECIFICATIONS :
- power supply : 3 x 1.5V AAA batteries (not incl.)
- bulb type : LED : 1W LED
- output power : 25~30 lumen
- dimensions : Ø41 x 132mm

ALUMINIUM ADJUSTABLE GOOSENECK CLIPLIGHT - LED 1W — ZL2711



FEATURES :
- momentary or constant illumination
- collimator provides more focused beam distribution
- DC-DC regulator maintains maximum light output throughout the entire battery life
- clip attachment
- battery life : 2.5hrs

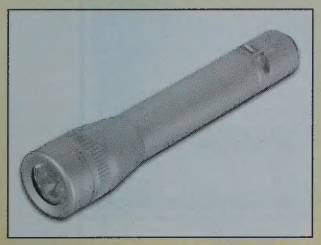
SPECIFICATIONS :
- power supply : 1 x 123 lithium battery 3V (incl.)
- bulb type : 1W Luxeon
- dimensions : 28 x 28 x 85mm (body) / 320mm (gooseneck length)
- weight : 108g (with battery)

WHITE LED LIGHT — LLW4

FEATURES :
- cylinder-shaped
- with keychain
- stylish and sophisticated design
- very bright white LED
- presented in nice gift box

SPECIFICATIONS :
- power supply : 3 LR44 button cell batteries (3pcs included)
- dimensions : Ø0.6" x 2.0"
- weight : 1.23oz

MINI TORCH WITH 3 WHITE LEDS — ZL101



FEATURES :
- aluminum LED hand torch with 3 LEDs
- long-life LED : 80.000 hours
- water- and shockproof

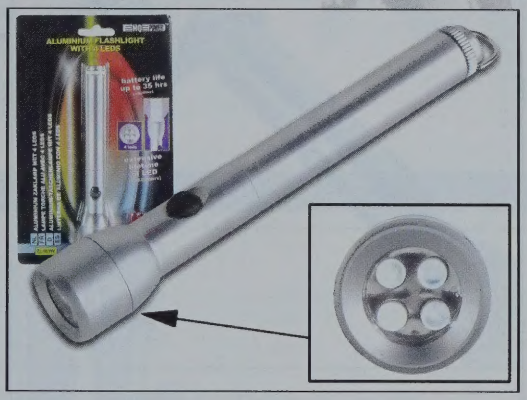
SPECIFICATIONS :
- power supply : 1 1.5V AAA battery (not incl.)
- lamp type : 3 Ø0.2" white LED
- dimensions : Ø0.7"/0.5" x 4.0"

TORCH WITH 5 WHITE LEDS — ZL303W5

FEATURES :
- lamp with 5 white LEDs
- long-life LEDs : 80.000 hours
- silver aluminum housing
- water- and shockproof

SPECIFICATIONS :
- power supply : 2 1.5V AA batteries (incl.)
- lamp type : 5 white LED Ø0.2"
- dimensions : 0.8" x 6.0"

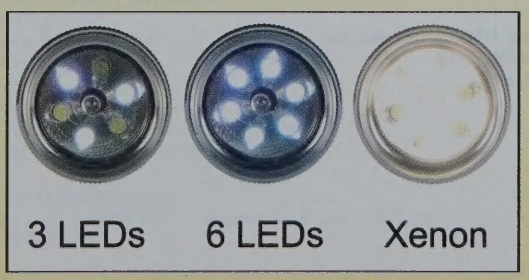
ALUMINUM FLASHLIGHT WITH 4 LEDS — ZL503W



FEATURES :
- solid-state circuitry enables the flashlight to remain lit for more than 35 hours at a stretch
- water-resistant, shockproof
- industrial grade switch, rated for 10000 on-off operations
- 4 high-intensity super white LEDs (Ø0.2")
- battery life : min. 35hrs (alkaline)

SPECIFICATIONS :
- power supply : 3 LR1 batteries (included)
- dimensions : Ø0.9" x 6.3"

TORCH WITH 6 WHITE LEDS + XENON — ZL302W6



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FEATURES :
- torch with 6 white LEDs + xenon bulb
- long-life LEDs : 80.000 hours
- anodised aluminium housing
- adjustable focus (xenon)
- battery life :
  - 3 LEDs : 160hrs
  - 6 LEDs : 100hrs
  - xenon : 5hrs
- accesories : wrist strap

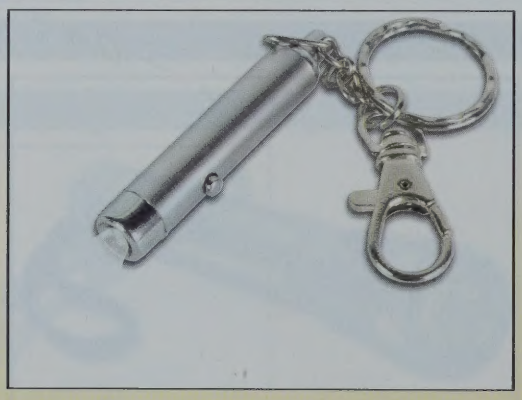
SPECIFICATIONS :
- power supply : 3 x 1.5V C batteries (incl.)
- bulb type :
  - xenon bulb 1.5V - 0.75A (LAMP302W6)
  - 6 x Ø5mm white LEDs
- dimensions : Ø44 x 228mm
- weight : 450g

SLIM LINE LED LIGHT WITH KEYCHAIN - BLUE - ▸▸ LLB5

FEATURES :
- cylinder-shaped, slim line design with keychain
- very bright blue LED

SPECIFICATIONS :
- power supply : 4 LR41 button cell batteries (incl.)
- dimensions : Ø0.35" x 1.8"
- weight : 0.7oz

SLIM LINE LED LIGHT WITH KEYCHAIN - WHITE - ▸▸ LLW5



FEATURES :
- cylinder-shaped, slim line design with keychain
- very bright white LED

SPECIFICATIONS :
- power supply : 4 LR41 button cell batteries (incl.)
- dimensions : Ø0.35" x 1.8"
- weight : 0.7oz

MINI LED LAMP WITH KEYRING ▸▸ ZLAL08W

FEATURES :
- LED lamp on a key hanger, with aluminum housing and rubber coating
- long-life LED : 100.000hrs
- small & light
- water-resistant
- burn time : 12hrs (alkaline)

SPECIFICATIONS :
- power supply : 3 x V392C button cell (incl.) - bulb type : Ø 0.2" white LED - dimensions : Ø 0.7" x 1.9"

MINI LED LAMP WITH KEYRING ▸▸ ZLA101W

FEATURES :
- ultra bright LED light - with "magnifier" lens
- low power consumption - more focusing beam, more powerful beam, longer beam length

SPECIFICATIONS :
- burn time : up to 12 hrs - extensive lifetime of LED : 100.000 hrs
- power supply : 3 V392C button cell batteries (incl.) - dimensions : Ø 0.6" x 2.4"

ALUMINUM LED FLASH LIGHT WITH MAGNIFYING LENS ▸▸ ZLA201W

FEATURES :
- aluminum LED keychain with "magnifier lens" - water-resistant - battery life : 12 hrs

SPECIFICATIONS :
- power supply : 3 V357C button cell batteries (incl.) - bulb type : Ø 0.2"white LED
- dimensions : Ø 1.0" x 3.9" - weight : 2.1oz (with batteries)

LED KEY HANGER - BLUE LIGHT — ZL325B

FEATURES :
- ultra bright blue LED pocket light
- long-life LED : long-life LED
- lasts exceptionally long
- small & light
- with key ring

SPECIFICATIONS :
- power supply : 2 3V CR2016 button cell (incl.)
- bulb type : Ø 0.2" blue LED
- dimensions : 1.4" x 1.9" x 0.4"

LED KEY HANGER - WHITE LIGHT — ZL325W

FEATURES :
- ultra bright white LED pocket light
- long-life LED : 100.000hrs
- lasts exceptionally long
- small & light
- with key ring

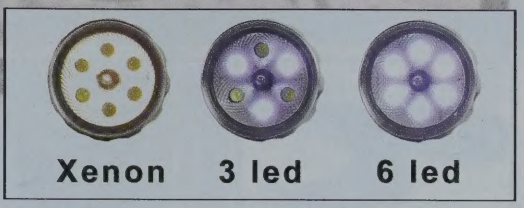
SPECIFICATIONS :
- power supply : 2 3V CR2016C button cell (incl.)
- bulb type : Ø0.2" white LED
- dimensions : 1.4" x 1.9" x 0.4"

POCKET TOOL WITH LED LIGHT & POUCH — ZLACS03

FEATURES :
- pocket tool with LED light
- long-life LED : 100.000hrs
- water-resistant
- stainless steel
- tools : flat nose pliers, wood saw, small blade, small screwdriver and bottle opener
- battery life : 12hrs
- comes with : nylon belt pouch

SPECIFICATIONS :
- power supply : 3 x V13GAC button cell batteries (incl.)
- bulb type : Ø 0.2" white LED
- dimensions : 2.8" x 1.3" x 0.6"

ALUMINUM 6 LED/XENON FLASHLIGHT — ZLAR306



FEATURES :
- aluminum LED/Xenon hand torch
- multifaceted reflector
- focus control (Xenon)
- water resistant
- battery life :
  - 3 LEDs : 50hrs
  - 6 LEDs : 30hrs
  - Xenon : 1.5hrs
- accessories : carrying strap and nylon pouch
- spare lamp : LAMPAR306

SPECIFICATIONS :
- power supply : 3 1.5V AAA batteries (incl.)
- bulb type :
  - 3V 0.3A high pressure Xenon bulb
  - 6 Ø0.2" white LEDs
- dimensions : Ø 1.6" x 5.4"
- weight : 5.6oz. (with batteries)

3-IN-1 FLASH LIGHT (3 LEDs / HALOGEN / CCFL) — ZLFX8803

FEATURES :
- ultra bright LED light
- long-life LEDs : 100000hrs
- high-intensity CCFL tube : 15000hrs
- a xenon lamp is 200% brighter than standard bulbs
- focus control for xenon lamp
- can be used as area light or flash light
- ribbed rubber handle
- handy carrying strap
- water-resistant
- life : - xenon lamp : 3.5hrs - CCFL : 7hrs - LED : 80hrs
- 3 operating modes : Xenon on / 3 LEDs on / CCFL on

SPECIFICATIONS :
- power supply : 4 1.5V AA batteries (incl.)
- bulb type : - LED : 3 white LED Ø 0.2" - halogen : 4.7V 0.4A xenon - CCFL : CCFL
- dimensions : Ø 2.8" x 7.1"

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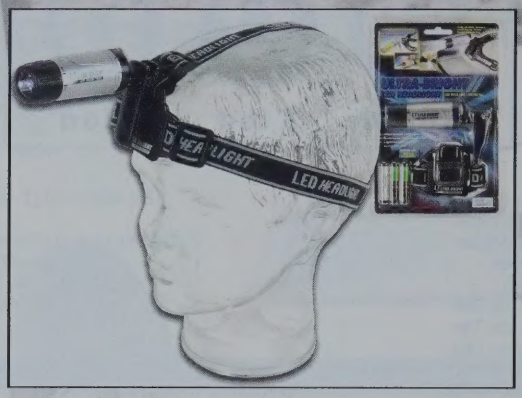
HEAD / BELT LAMP WITH LED

ZL321M

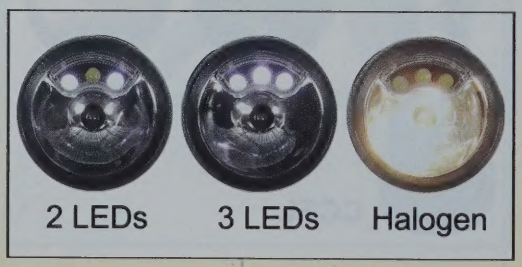


FEATURES :
- ultra bright LED headlamp
- long-life LED : 100.000hrs
- water-resistant
- clip attachment rotates 360±
- can be attached to the wrist, belt, hat, etc.
- adjustable headband
- battery life : 80hrs (alkaline)

SPECIFICATIONS :
- power supply : 3 1.5V AAA batteries (incl.)
- bulb type : Ø 0.2" white LED
- dimensions : Ø 1.1" x 3.2"

MINI LED + HALOGEN HEADLAMP

ZLHL389

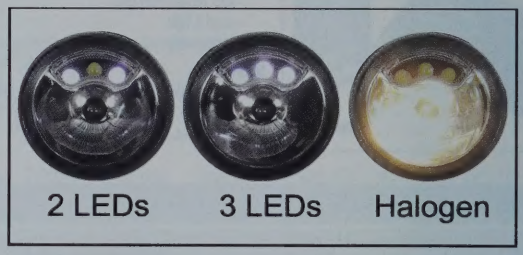


FEATURES :
- mini LED + halogen headlamp
- long-life LED : 100000hrs
- adjustable headband
- up/down adjustable headlight
- super bright light
- focus control : from spot to floodlight
- 3 modes : 2 LEDs on / 3 LEDs on / halogen
- autonomy :
  - halogen : 3.5hrs (alkaline)
  - 3 LEDs : 80hrs (alkaline)

SPECIFICATIONS :
- power supply : 3 1.5V AAA batteries (incl.)
- bulb type :
  - LED : 3 white LEDs Ø 0.2"
  - halogen : bi-pin bulb 3V/0.2A

HEADLAMP WITH 3 LEDs + KRYPTON

ZLHL389E



FEATURES :
- headlamp with 3 LEDs + krypton
- super bright LED for close range use
- krypton bulb for long range use
- long-life LED : 100000hrs
- adjustable headband
- adjustable inclination
- up/down adjustable headlight
- super bright light
- focus control : from spot to floodlight
- 3 modes : 1 LED on / 3 LEDs on / krypton on
- autonomy :
  - krypton: 2.5hrs (alkaline)
  - 3 LEDs: 80hrs (alkaline)

SPECIFICATIONS :
- power supply : 3 x 1.5V AAA batteries (not incl.)
- bulb type : - LED : 3 white LEDs Ø 5mm - krypton : krypton bulb 3.6V / 0.3A

8-LED DIVING HEADLIGHT

ZL928

FEATURES :
- waterproof to a depth of 30ft
- tough ABS body / PVC coating
- adjustable inclination
- life : LED : 50hrs

SPECIFICATIONS :
- power supply : 4 1.5V AA batteries (incl.)
- bulb type : LED : 8 white LED Ø 0.2"
- dimensions : 5.4" x 3.0" x 2.6"

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RECHARGEABLE SPOTLIGHTS

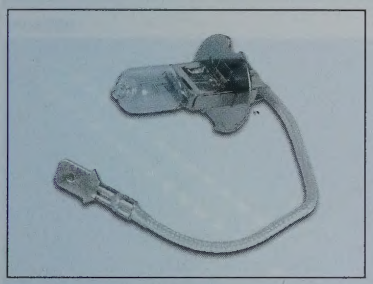
POWER SPOTLIGHT 500.000 CANDELPOWER — ZL500NU

FEATURES :
- built-in rechargeable 6V-battery
- weatherproof
- momentary trigger switch with lock
- charged via car battery or home adapter
- replaceable battery & bulb
- 25W quartz halogen lamp
- shock-resistant plastic housing
- AC/DC power adapter and DC car cable are included

SPECIFICATIONS :
- luminous intensity : 500000Cd
- dimensions : 5.1" (Ø lens) x 9.1"
- weight : 3.3 lbs (incl. battery)

SPARE BULBS

part name	for	description
LAMPZL500	ZL500NU	H3 - 6V 25W



part name LAMPZL500

CAR PRODUCTS

12V NEON LIGHT TUBES

FEATURES :
- great for customizing your car's interior, complementing your car's sound system, etc.
- can easily be mounted just about anywhere to create an exciting "glow-in-the-dark" effect : under the seat, on the dashboard
- easy installation: just connect it with the cigarette lighter plug

SPECIFICATIONS :
- built-in low-voltage transformer / neon tube is sealed in an acrylic tube
- for interior use only

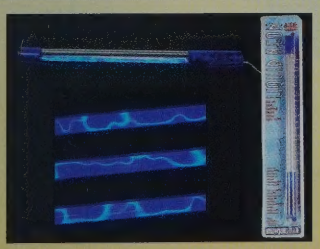
14.9" RED LIGHTNING NEON LIGHT TUBE — FLROD1

"POWERBOLT 38".

FEATURES :
- 15" red lightning neon light tube
- with built-in music control module

SPECIFICATIONS :
- contents : 1 "Powerbolt 38" lighting rod and 2 fixing screws

19.7" BLUE LIQUID NEON LIGHT TUBE — FLROD2



"LIQUID NEON 50"

FEATURES :
- 19.7" blue rippling liquid neon light tube (plasma)

SPECIFICATIONS :
- contents : 1 "Liquid Neon 50" lighting rod and 2 fixing screws

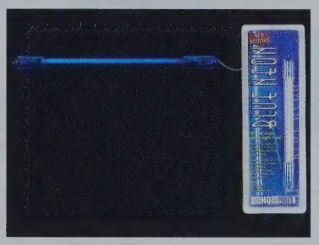
9.8" BLACKLIGHT NEON TUBE" — FLROD3

"BLACK LIGHT 25"

FEATURES :
- 9.8" real black light neon tube
- real black light : creates high-lights on clothes, UV reflective materials, ...

SPECIFICATIONS :
- contents : 1 "Blacklight 25" lighting rod and 2 fixing screws

7.9" BLUE NEON TUBE — FLROD4B

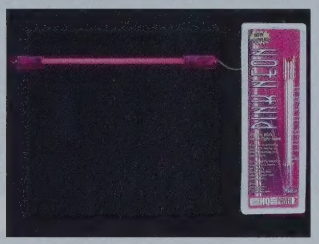


"BLUE NEON 20"

FEATURES :
- 7.9" blue neon light tube

SPECIFICATIONS :
- contents : 1 "Blue Neon 20" lighting rod and 2 fixing screws

7.9" PINK NEON TUBE — FLROD4P



"PINK NEON 20"

FEATURES :
- 7.9" pink neon light tube

SPECIFICATIONS :
- contents : 1 "Pink Neon 20" lighting rod and 2 fixing screws

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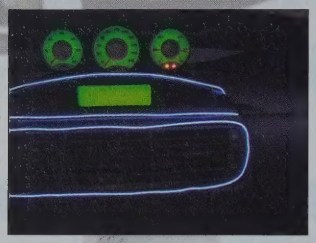
CAR ACCESSORIES

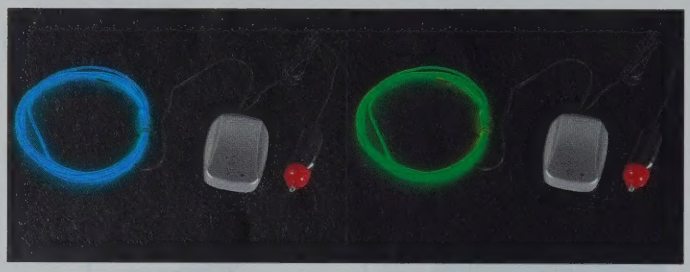
12VDC MUSIC CONTROLLED EL WIRE SET



FEATURES :
- electroluminesence (EL) wire, extremely flexible
- usage : in the car, flashes to the rhythm of the music
- 3 functions : on, music-controlled (adjustable sensitivity), off

SPECIFICATIONS :
- wire specifications : Ø0.13" / length : 9.8ft
- power supply : 12Vdc cigarette lighter plug

part name	color
NWRB30	blue
NWRG30	green
NWRR30	red



part name NWRB30 | part name NWRG30

part name NWRR30

EL FLASH STICK SET

EIGHT-COLOR EL FLASH STICK SET (2 pcs) FOR CAR USE ▸▸ CHNWS1

FEATURES :
- music-controlled (MU-position) : adjust the music sensitivity with the slider
- program-controlled (PR-position) : activate the auto-program function or select one of the six different programs with the PR ADJ button
- always start the car with the device in the OFF position to avoid damage because of the high start-up current
- attach the inverter and the flash stick to the dashboard of your vehicle with the included sticky pads

SPECIFICATIONS :
- power supply : DC 12V / 300mA
- dimensions : 0.8" x 3.9"

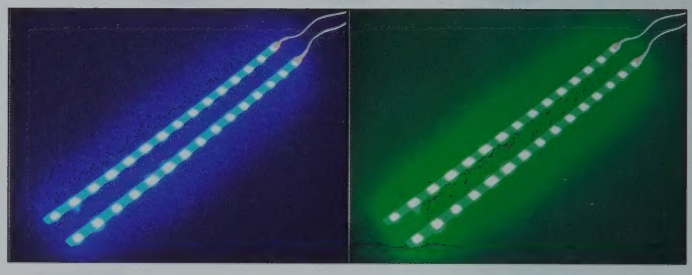
DOUBLE SELF-ADHESIVE LED STRIPS

SPECIFICATIONS :
- number of LEDs : 2 x 15
- power supply : DC 12V
- length : 2 x 40cm
- with on/off switch
- the strip automatically returns to the OFF position when the power is cut (no memory)

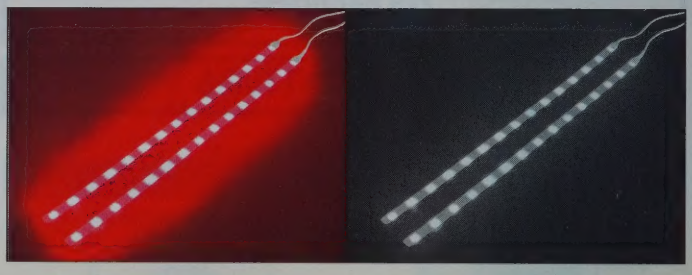
DOUBLE SELF-ADHESIVE LED STRIPS - WITH CONTROLLER

FEATURES :
- automatic program : all on, strobe, all on + strobe, sequential, sequential + strobe
- warning : no memory function, settings are lost when the LED strip is turned off

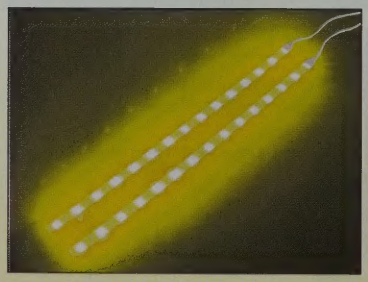
part name	colour
CHLSB	blue
CHLSG	green
CHLSR	red
CHLSW	white
CHLSY	yellow



part name CHLSB | part name CHLSG



part name CHLSR | part name CHLSW

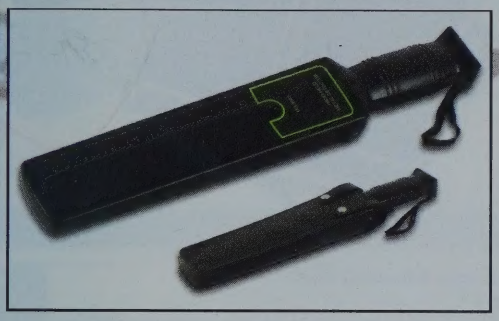


part name CHLSY

METAL DETECTORS

METAL DETECTORS - VELLEMAN

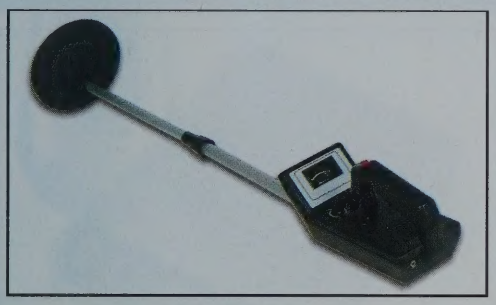
HAND-HELD METAL DETECTOR ▸▸ CS10MD



The CS10MD is a high-quality hand-held metal detector designed to meet the requirements of the security industry. Typical applications include : body search for offensive weapons, airport and border security, checking parcels and letters for metal objects and searching anywhere that hidden metal needs to be detected.

SPECIFICATIONS :
- power supply : 1 x 9V battery (not included)
- operating frequency : 22kHz
- operating current : < 50mA
- operating voltage : 7V to 9V
- operating temperature : 23±F to 131±F
- weight (net) : 9.9oz
- dimensions : 15.6" x 2.7" x 1.3"

BASIC METAL DETECTOR ▸▸ CS100



FEATURES :
- hunt for coins, relics, jewellery, gold and silver just about anywhere
- headphones output
- VU-meter
- waterproof search head
- adjustable stem

SPECIFICATIONS :
- power supply : 6 1.5V AA batteries (not incl.)

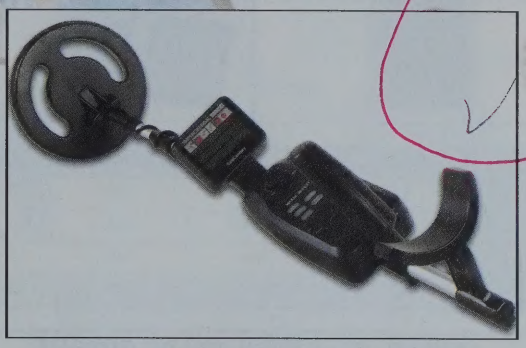
METAL DETECTOR WITH AUDIO DISCRIMINATOR ▸▸ CS150

63.50

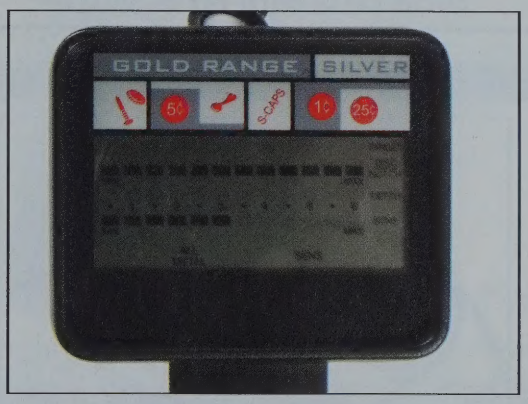
FEATURES :
- hunt for coins, relics, jewellery, gold and silver just about anywhere
- 3-tone audio discriminator
- headphones output
- VU-meter
- waterproof search head (8" Ø)
- adjustable stem

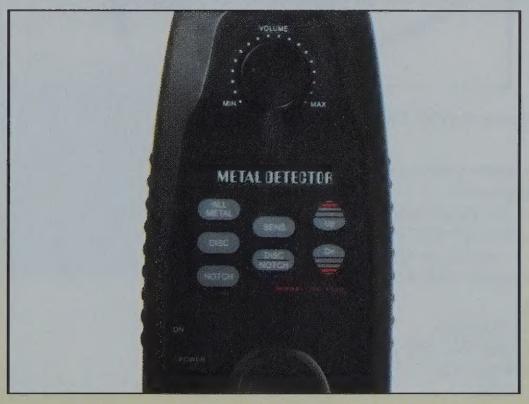
SPECIFICATIONS :
- power supply : 3 9V-battery (not incl.)

METAL DETECTOR WITH LC DISPLAY ▸▸ CS200



119.95





FEATURES :
- 7.9" waterproof search head
- large LCD display
- target ID
- depth readout
- sensitivity control
- variable discrimination
- variable notch
- 3-tone audio discrimination
- low-battery indicator

SPECIFICATIONS :
- 1/8" headphone jack
- power supply : 2 9V-battery (not included)

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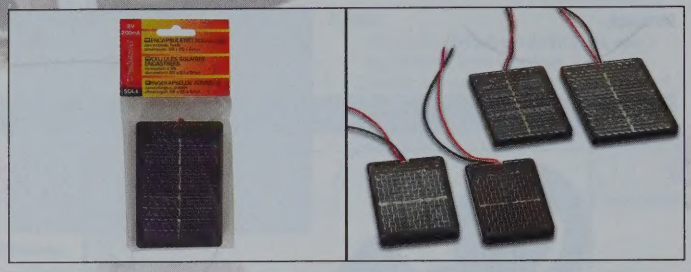
SOLAR CELLS

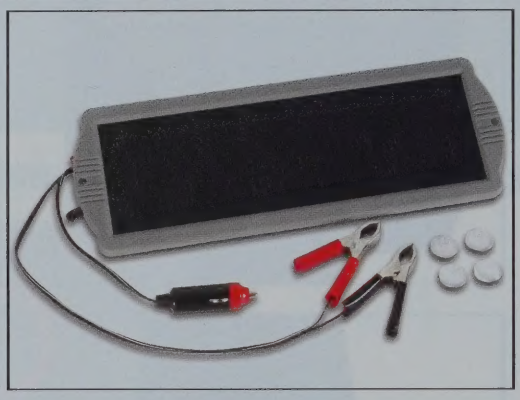
SOLAR CELLS



part name	voltage	current	connections	dimensions
SOL1	0.5V	400mA	leads	1.8" x 2.8" x 0.2"
SOL2	0.5V	800mA	leads	2.6" x 3.7" x 0.2"
SOL3	1V	200mA	leads	1.8" x 3.0" x 0.2"
SOL4	2V	200mA	leads	3.0" x 3.7" x 0.2"

SOLAR CELLS WITH 12V DC OUTPUT

TRICKLE CHARGER WITH SOLAR CELLS (12V/1.5W) ▸▸ SOL5N

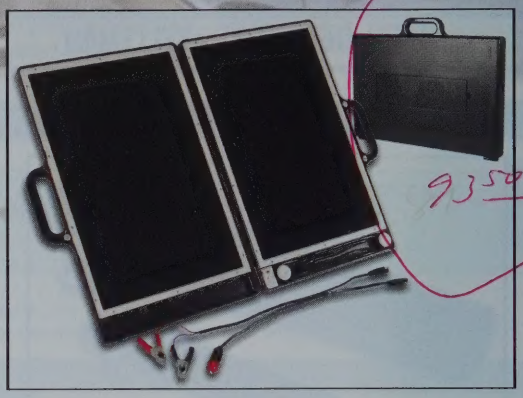


Powerful solar power source for 12Vdc battery.

FEATURES :
- built-in protection to prevent current reversal
- included accessories :
  - 1 x lead wire with cigarette lighter plug
  - 1 x lead (3m) with 2 battery clamps
  - 4 x suction cups (for mounting e.g. on car window)
- optional controller : SOL4UCN2 (see p.130)

SPECIFICATIONS :
- power : 1.5W maximum
- voltage output : 12V (" 20%)
- nominal voltage : 14.5V
- current : 125mA
- dimensions : 13.4" x 4.7" x 0.6"
- weight : 1.0 lbs

COMPACT SOLAR GENERATOR IN BRIEFCASE DESIGN ▸▸ SOL8



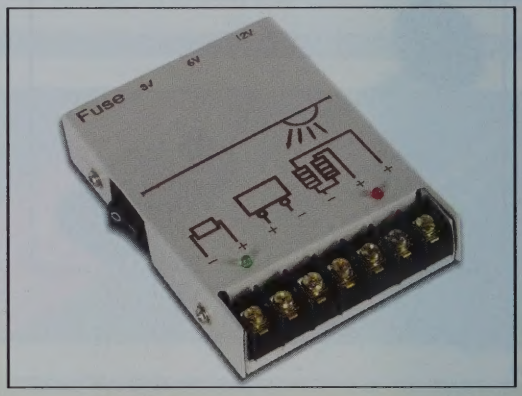
Powerful 13W solar chargers. With adjustable support.

FEATURES :
- applications : caravan, yacht, electric hand tools, DC refrigerator, notebook computer, GPS system
- with blinking charging indicator
- with detachable connectors for different applications
- optional controller : SOL4UCN2 (see p.130)

SPECIFICATIONS :
- power : 13W maximum
- working voltage : 14V
- working current : 750mA
- dimensions : 20.1" x 14.7" x 1.6"
- weight : 9.7lbs

CHARGE CONTROLLER

DC VOLTAGE CONTROLLER FOR SOLAR ENERGY ▸▸ SOL4UCN2



FEATURES :
- small and exquisite design
- professional control IC provides low voltage, overload protection to solar panel and storage battery
- used for lighting, camera, recorder, etc...
- easy installation and operation
- for use with : SOL5N, SOL6N, SOL8

SPECIFICATIONS :
- output DC voltage : 13.0V " 10%
- output DC current : 4A max.
- optimal input voltage (battery) : 13.5V " 10%
- over-discharge protection voltage : <= 10.5V
- overcharge protection voltage : >= 15V
- solar panel :
  - working current : <= 5A
  - open voltage : 21 ~ 24V
- suggested type of rechargeable battery : 12V / 10 ~ 40Ah sealed lead acid battery
- working temperature : +14±F ~ +107±F, humidity : <= 80%
- dimensions : 4.7" x 3.1" x 0.9"

KEY FINDER

KEY FINDER WITH LIGHT ▸▸ KF21

FEATURES :
- emits a beep when the user whistles
- helps you to locate your keys within a 10ft radius
- equipped with a mini torch for use in the dark

SPECIFICATIONS :
- power supply : 2 LR44-batteries (incl.)

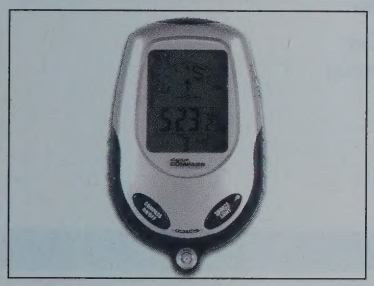
KEY FINDER WITH FLASHING LIGHT ▸▸ KF22

Most useful! The next time you misplace your keys, just whistle and the KF22 will then both beep and flash, allowing you to find your keys!

SPECIFICATIONS :
- power supply : 2 x 1.55V LR41 V392C watch batteries (4 batteries incl.)

COMPASSES

ELECTRONIC / DIGITAL COMPASS ▸▸ COMP1



FEATURES :
- valuable navigational/aid/safety device for travellers
- perpetual calendar
- alarm + clock
- clock displayed in 12/24h mode
- heading displayed in cardinal points (N, NW, etc.) and in numerals (degrees)
- directional compass arrow
- backlit LCD for use at night
- manual calibration
- extra wide temperature range : 0±C ~ +60±C (32±F ~ 140±F)

SPECIFICATIONS :
- power supply : 3 x 1.5V AAA batteries (LR03C, not incl.)

CLOCKS, WATCHES & WEATHER STATIONS

STOPWATCHES

STOPWATCH 1/1000 SEC. ▸▸ SW1

FEATURES :
- high-precision stopwatch
- water-resistant
- split display and reset function
- memory for 3 best lap times
- count up to 9 hours 59 minutes and 59.999 seconds

SPECIFICATIONS :
- precision : to 1/1000th of a second

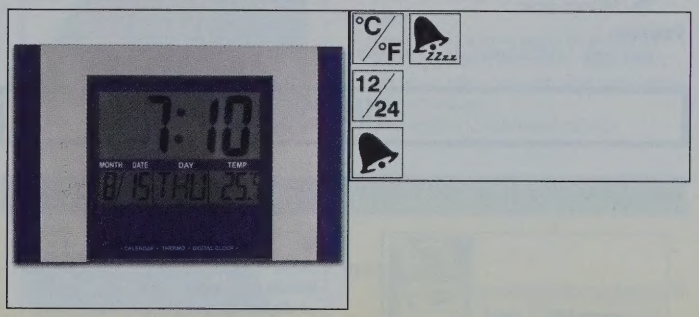
STOPWATCH 1/100 SEC. ▸▸ SW2

FEATURES :
- time/calendar display : hours, minutes, seconds, month, date and day of the week
- stopwatch accuracy : 1/100 of a second during the first 30min, 1 second after 24hrs
- time display mode : 12/24hr mode (selectable)
- with alarm and snooze function

SPECIFICATIONS :
- power supply : 1 LR44-battery (incl.)
- weight : 1.4oz

WALL CLOCKS

WALL CLOCK WITH DATE, TEMPERATURE AND COUNTDOWN ▸▸ WC32TC



FEATURES :
- jumbo LC display
- alarm clock and snooze function
- 200-year calendar (1900-2099)
- temperature read-out in ±C or ±F
- for wall mounting or desktop display with built-in collapsible supports

SPECIFICATIONS :
- power supply : 2 1.5V AA-battery (not incl.)
- dimensions : 11.4" x 7.5" x 1.0"

G

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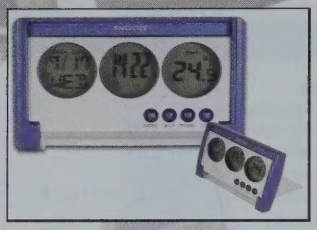
DESK CLOCKS

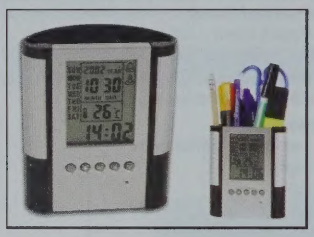
CLOCK WITH ALARM, DATE & TEMPERATURE — WT306



FEATURES :
- triple display : left display shows month/date/day, middle display shows clock, right display shows temperature
- with timer function : countdown from 29:59:59
- temperature : switchable between ±C / ±F
- stopwatch : 29:59:59 max.
- protection cover also serves as a stand

SPECIFICATIONS :
- dimensions : 3.9" x 2.6" x 0.6" - power supply : 1 3V CR2025 battery (included)

PEN HOLDER WITH CLOCK, ALARM, DATE & TEMPERATURE — WT60

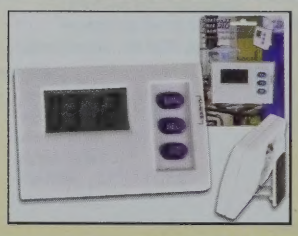


FEATURES :
- 5 different modes :
  - time mode : the display shows time, week and the environment temperature
  - alarm mode : set daily alarm and snooze settings and choose one of the eight alarm tunes
  - birthday mode : enables you to set up a birthday day and time / the device will play a "Happy Birthday" song
  - timer mode : enables you to set a countdown timer / the alarm will ring on the set time
  - thermometer mode : displays the environment temperature
- 12h / 24h mode selection

SPECIFICATIONS :
- power supply : 1 CR2025 battery (incl.) - dimensions : 3.8" x 4.7" x 1.9"

TIMERS

COUNTDOWN TIMER (99min. 59sec.) WITH ALARM — TIMER5



FEATURES :
- countdown : from 99 min. 59 sec.
- mounting : clip or magnet
- can also be placed upright

SPECIFICATIONS :
- color : white
- dimensions : 2.7" x 1.9"
- power supply : 1 1.5V LR44 battery (included)

WALL CLOCK MOVEMENTS

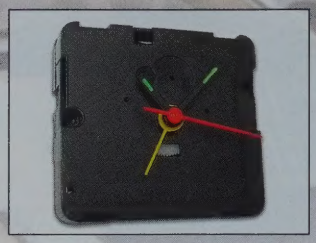
QUARTZ CLOCK MECHANISM — WCM1

Quartz clock mechanism for your self-made clock or as a replacement for a damaged watch. With suspension clip.

SPECIFICATIONS :
- power supply : 1 1.5V AA-battery (not incl.)
- dimensions : 2.2" x 2.2" x 0.6"

.65

QUARTZ CLOCK MECHANISM WITH ALARM FUNCTION — WCM2



Quartz clock mechanism with alarm clock function.

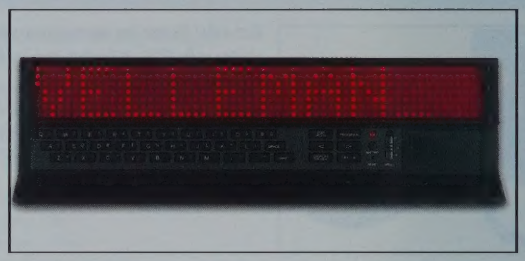
FEATURES :
- integrated buzzer with on/off switch
- comes with a set of clock hands

SPECIFICATIONS :
- power supply : 1 1.5V AA-battery (not incl.)
- dimensions : 2.2" x 2.0"

2.89

MESSAGE BOARDS

MOVING MESSAGE BOARD — MML10



Ideal for advertisements or meetings. Two scrolling speeds, memory backup power (up to 3 months). Max. 600 characters can be programmed.

SPECIFICATIONS :
- 1.25" dot matrix LED display
- the display is 10 characters wide
- large memory capacity : 4 messages + 1 alarm message
- alarm message is activated by N.O. switch
- select fast or slow scrolling speed
- memorised data are saved by backup battery (2 AAA-batteries)
- low-battery indicator
- power supply : DC 12V / 500mA adapter (incl.)
- dimensions :
  - external : 1.8" x 3.5" x 2.8"
  - display : 10.8" x 1.4"

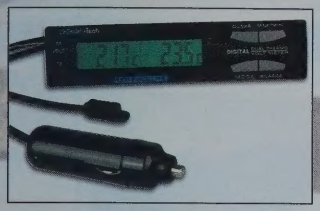
PROGRAMMABLE LED BADGE 21 x 7 DOT MATRIX — MML4

The programmable LED badge is a magnetic name card and display badge especially designed for commercial applications. Power consumption is low and the badge is light, compact and easy to use. Max. 50 characters can be programmed. Four scrolling speeds.

FEATURES :
- LED : 21 x 7 DOT MATRIX
- storage capacity : max.50 characters
- the display is 3 characters wide
- messages are stored when device is switched off
- slim design
- fixed with magnetic strip
- order of the available characters : ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
- 4 scrolling speeds can be selected
- rear panel buttons : start/stop, speed, set, up, down, cancel
- power supply : DC 3V CR2032
- dimensions :
  - display : 65 x 13mm
  - external : 80x 42 x 7mm
- weight : 33g (incl. battery)

THERMOMETERS

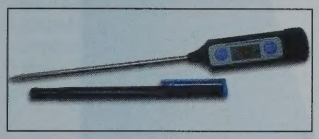
THERMOMETER WITH DUAL DISPLAY, BACKLIGHT & BATTERY TESTER — TA6



FEATURES :
- belongs to a new generation of digital thermometers
- with car battery analyzer
- dual display : in/out temp or temp/voltage
- digital voltage meter, car battery monitor and charging level monitor
- analog battery analyzer icon displays battery level from empty to full
- unique voltage guard function : flashing green LED when battery level is too low or high
- dual-channel in/out thermometer with max/min memory
- unique multi-angular design, can be placed on any flat surface
- external waterproof sensor
- ice alert

SPECIFICATIONS :
- extra wide temperature range : -58±F to +158±F (-50±C to +70±C)
- power supply : 1 1.5V AAA-battery (not incl.)
- 12V car plug included for continuous LED backlight
- dimensions : 120 x 28 x 22mm

MIN/MAX PEN-SHAPED THERMOMETER — DTP3



FEATURES :
- water-resistant
- data-hold function
- automatic shutoff
- stainless steel probe
- no calibration required
- fast temperature response
- temperature read-out in ±C or ±F
- memory for maximum / minimum temperature

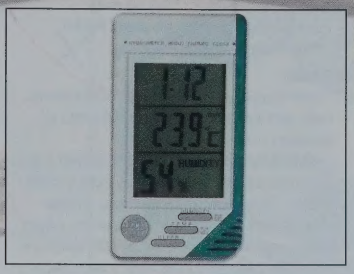
SPECIFICATIONS :
- measurement range : -58±F to 392±F (-50±C to +200±C)
- accuracy : ″2±F between -58±F to 302±F, ″4±F above 302±F
- display resolution : 0.1± between -3.8± to 391.8±, 1± below -3.8±
- sampling rate : 1 sample every 0.7 / 4 seconds
- automatic shutoff after 10 minutes of idling
- display size : 0.15" x 0.25"
- dimensions : Ø0.14" x 4.9"
- power supply : 1 1.5V LR44-battery (not incl.)
- ambient temperature : 14±F to 122±F
- battery life : 5000 hours of continuous use

DIGITAL IN/OUT THERMOMETER — TA20

FEATURES :
- ideal for refrigerator, freezers, in or around the home and workplace
- in/out thermometer
- clearly legible display
- memory for min/max values
- wall-mounted or freestanding device
- simultaneously display in/out
- alert/set button to enter a preset value for in/out temperature
- temperature readout in ±C or ±F
- weatherproof sensor probe for outdoor temperature

SPECIFICATIONS :
- temperature range - indoor : -10±C to +50±C (+14±F to +122±F) - outdoor : -50±C to +70±C (-58±F to +158±F)
- resolution : 0.1±C (0.1±F)
- sensor wire length : 1.8m
- digit height : 12mm (0.5")
- display size : 30 x 40mm (1.18" x 1.57")
- unit size : 110 x 70 x 20mm (4.3" x 2.75" x 0.78")
- power supply : 1 x 1.5 V AAA battery (LR3C) (incl.)

CLOCK WITH HYGROMETER AND IN/OUT THERMOMETER — WS241



FEATURES :
- jumbo 3-channel LCD display
- with outdoor sensor (3m weatherproof cable incl.)
- instant read-out of room temperature and relative humidity
- memory for min. and max. temperature and relative humidity
- temperature read-out in ±C or ±F
- built-in stand for desktop display
- can also be mounted on a wall

SPECIFICATIONS :
- temperature measuring range : -50±C to +70±C (58±F to +158±F)
- temperature tolerance :
  - 0±C to +40±C (32±F to 104±F) : ″ 1±C (″ 2±F)
  - other : ″ 2±C (″ 4±F)
- hygrometer measuring range : 5% to 95%
- humidity tolerance : ″ 5% (at room temperature)
- LCD size : 1.6" x 2.4"
- digit height : 0.6"
- dimensions : 4.3" x 2.3" x 0.6"
- power supply : 1 1.5V AAA-battery (incl.)

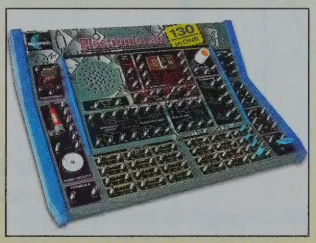
ELECTRONIC LAB KITS

30 IN 1 ELECTRONIC LAB KIT — EL301

FEATURES :
- educational and fun projects, safe and solderless
- practical and illustrated lab-style manual included
- complete 30 exciting electronics experiments

SPECIFICATIONS :
- a great introduction into the world of advanced electronics
- everything you need to build a radio, a burglar alarm, a water detector, a Morse code practice circuit, simple computer circuits and much more
- power supply : 2 1.5V AA-batteries (not incl.)

130 IN 1 ELECTRONIC LAB KIT — EL1301



FEATURES :
- the fun way of learning about electronics and of studying the wonders of science

SPECIFICATIONS :
- a great introduction into electronics
- no experience required
- coil-spring connections make this kit safe and easy for anyone to use
- includes illustrated step-by-step manual for easy project construction
- build a radio, an AM broadcasting station, an electronic organ, a kitchen timer, logic circuits and much more
- comes with built-in speaker, 7-segment LED display, two fully integrated circuits and rotary controls
- power supply : 6 1.5V AA-batteries (not incl.)

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300 IN 1 ELECTRONIC LAB KIT

EL3001

FEATURES :
- educational and fun projects, safe and solderless
- build 300 exciting circuits - safely and easily
- practical and illustrated lab-style manual included
- 300 electronics experiments in 1 package

SPECIFICATIONS :
- a great introduction into the world of advanced electronics
- easy, quick and step-by-step learning of the basics of electronics / no tools or soldering required
- everything you need to build 300 exciting electronic projects : a transistor radio, an IC organ, a burglar alarm, a battery checker, a delayed timer, an electronic game, a voltage-controlled amplifier, multiplier, a multiple counter, a digital light dimmer, a tone burst generator, an audio signal tracer, an electronic candle, a voice level meter, a metal detector, a rain detector, a voltage drop alarm, a logic checker, a function generator and much more
- power supply : 6 1.5V AA-batteries (not incl.)

153 IN 1 ELECTRONIC LAB KIT

EL1531

FEATURES :
- 43 elements in set
- possible to perform 153 physic and magnetism experiments
- booklet included with every experiment described in detail, making research easy and rewarding

SPECIFICATIONS :
- power supply : 1 9V battery (not incl.)

2 IN 1 ELECTRONIC LAB KIT

EL21

FEATURES :
- educational and fun projects, safe and solderless
- learn to build your own AM / FM radio
- with earphone included

SPECIFICATIONS :
- frequency range : 520-1650kHz (AM) and 88-108MHz (FM)
- power supply : 1 9V battery (not incl.)

COMPUTER & MULTIMEDIA

COMPUTER MOUSES

WIRELESS & RECHARGEABLE MINI OPTICAL COMPUTER MOUSE

PCM6

FEATURES :
- 100% plug & play
- USB interface
- 800dpi hardware resolution
- compatible with Windows 98, 2000, ME & XP
- 16 combinations possible for the user code

SPECIFICATIONS :
- range : 3m max.
- power supply : 2 x 1.2V NiMH AAA batteries (incl.)
- rechargeable via USB port
- dimensions :
  - mouse : 90 x 45 x 30mm
  - USB receiver : 60 x 20 x 13mm
- weight :
  - mouse : 55g (without batteries), < 80g (with batteries)
  - USB receiver : < 15g

WIRELESS & RECHARGEABLE OPTICAL COMPUTER MOUSE

PCM7U

FEATURES :
- 3-button mouse with scroll wheel
- wireless & rechargeable
- comes with charger & power adapter
- extremely sensitive (820dpi)

SPECIFICATIONS :
- connector : PS/2 and USB
- power supply : 2 x rechargeable 1.5V AAA batteries (incl.)
- power adapter : 230Vac-5Vdc/300mA

USB HUBS

USB HUB, 1 x MALE TO 4 x FEMALE USB-A PORT — PCUSB2

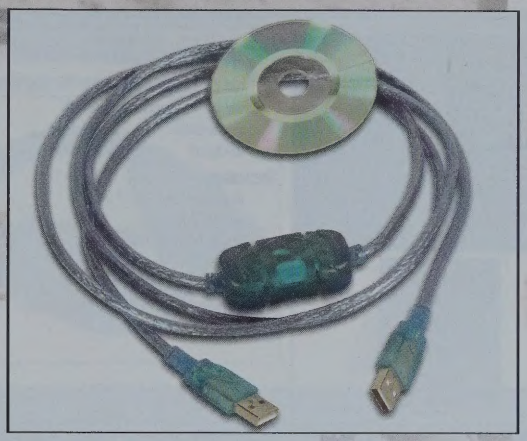
FEATURES :
- suitable for all USB1.1 & 2.0 devices
- 1 x upstream port & 4 x downstream ports
- OCP (over current protection) : 500mA
- bus fault detection and recovery
- plug-and-play and hot-pluggable
- 12Mbps full speed USB HUB
- compatible with any device with USB ports
- Windows 98(SE), 2000, ME, XP & Mac
- comes with extension cable (15cm)

USB 2.0 HUB, 1 x USB-B FEMALE TO 4 x USB-A FEMALE — PCUSB3

FEATURES :
- 4 USB ports, up to 100mA per port or up to 500mA (with power adapter)
- supports overcurrent protection
- supports high-speed (480Mbps) as well as full-speed (12Mbps) and low-speed (1.5Mbps) transfer rate
- automatic 'plug-and-play' system configuration
- chains up to 127 USB devices
- USB and ACPI compliant
- easy connection to external hard disks, digital camcorders, scanners and multimedia & storage devices
- requirements :
  - Mac or IBM compatible PC
  - USB host card or USB hub device

SPECIFICATIONS :
- interface standard : USB V2.0
- USB connectors : 4 A type female connectors and 1 B female connector
- data transfer rate : high-speed transfer 480Mbps, full speed 12Mb/sec and low speed 1.5Mb/sec.
- a power LED lights when the USB cable is plugged in
- 4 activity LEDS : every downstream USB port has a LED that lights when the port is used
- supports bus-powered and self-powered mode
- cable : 1 USB cable
- material : plastic

USB 2.0 DATALINK CABLE — PCUSB5



FEATURES :
- connects 2 computers through USB

SPECIFICATIONS :
- maximum data transfer rate : over 5Mbps
- single cable solution for network communication
- single cable solution for data communication
- supported by Windows 98/Me/2000/XP
- easy drag&drop file transfer
- standard Windows Explorer user interface
- supports TCP/IP, Netbeui, Ipx/Spx protocols
- Full Ndis driver implementation
- bus-powered device, no external power needed
- compliant with USB 1.1
- Hot PnP for ease of use

USB LED LIGHT — PCUSBL

LED light with gooseneck.

FEATURES :
- just turn on your notebook or PC to power the LED light
- gently place the gooseneck in the desired position
- durable LED is rated to 10,000 hours of use

SPECIFICATIONS :
- gooseneck with 1 LED and an on/off switch
- gooseneck length : 40cm

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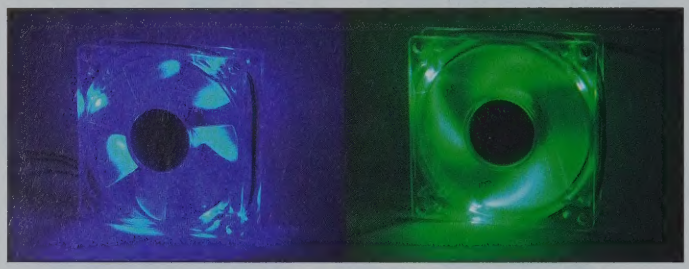
PC FANS WITH LEDS

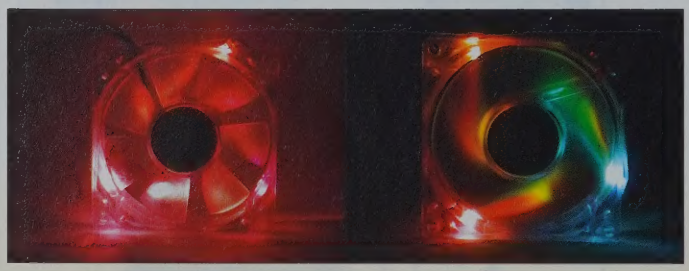
FEATURES :
- silent
- cool and illuminate your case at the same time
- add flair and personality to your PC
- easy to install
- shockproof

SPECIFICATIONS :
- dimensions : 3.1" x 3.1" x 1.0"
- weight : 2.5oz
- speed : 3000rpm (avg.)
- air flow : 34ft³/hr
- noise : 30dBA
- power supply : DC 12V

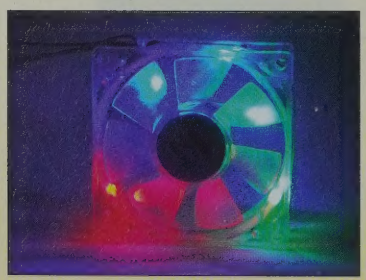
part name	LEDs
PCBB	3 x blue
PCBG	3 x green
PCBR	3 x red
PCBMF	flashing colors alternate continuously
PCBRGB	3 x multicolored (red, green, blue)



part name PCBB | part name PCBG

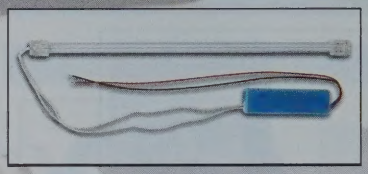


part name PCBR | part name PCBMF



part name PCBRGB

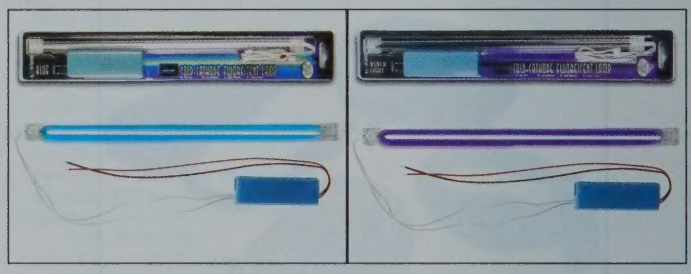
COLD-CATHODE FLUORESCENT LAMP + POWER SUPPLY, 11.8"



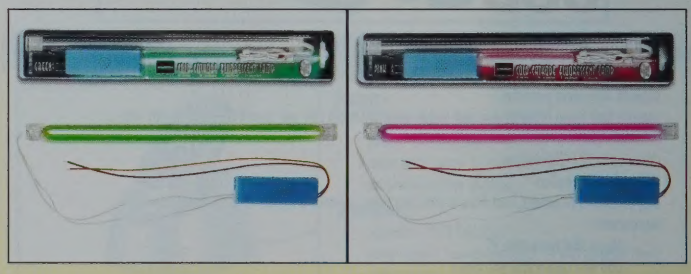
FEATURES :
- acrylic protection tube with self-adhesive pads
- housing for power inverter and tube
- inverter with 2 lamp outputs for optional tube
- can be mounted in a computer : use the optional cable set : FLPSCOMP (see p.137)

SPECIFICATIONS :
- dimensions :
  - tube housing : 12.2" x 0.47" x 0.47"
  - tube : 11.8" x Ø0.16"
  - power supply : 3.3" x 1.0" x 0.7"
- tube voltage : 180 ~ 800V
- average brightness : 15000cd/m²
- average life : 15.000hrs
- power inverter (incl.) : input DC 12V / 400mA

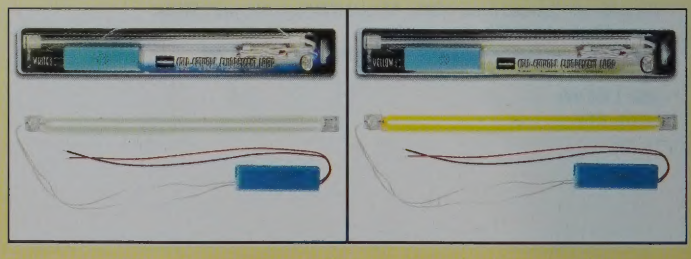
part name	color
FLPSB2	blue
FLPSBL2	blacklight
FLPSG2	green
FLPSP2	pink
FLPSW2	white
FLPSY2	yellow



part name FLPSB2 | part name FLPSBL2



part name FLPSG2 | part name FLPSP2



part name FLPSW2 | part name FLPSY2

PC CABLE SET FOR FLPSxx-SERIES ▸▸ FLPSCOMP

FEATURES :
- for use with : FLPSB2 (see p.136) , FLPSBL2 (see p.136) , FLPSG2 (see p.136) , FLPSP2 (see p.136) , FLPSW2 (see p.136) , FLPSY2 (see p.136)

MULTIMEDIA MICROPHONES

PROFESSIONAL COMMUNICATION HEADSET + MICROPHONE ▸▸ HSM2

FEATURES :
- professional design
- for multimedia applications
- with microphone

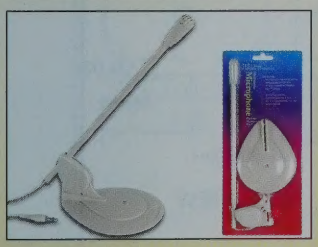
SPECIFICATIONS :
- headphones :
  - drive unit : 1.2"Ø mylar cone
  - impedance : 30 ohm
  - sensitivity : 106dB
  - frequency response : 20 - 20000Hz
  - max. power handling : 100mA
  - 1/8" plug with 6ft cable
- microphone :
  - type : Ø 0.4", electret condenser
  - directivity : omnidirectional
  - sensitivity : -58 ± 3dB
  - impedance : low
  - frequency response : 30 - 16000Hz
  - power requirement : 1.5V to 12V / 0.8mA
  - 1/8" plug with 6ft cable

MULTIMEDIA MICROPHONE ▸▸ HSM5

FEATURES :
- unidirectional electret condenser microphone
- for use with all sound cards

SPECIFICATIONS :
- frequency response : 50-12500Hz
- output impedance : 2kohm
- sensitivity : -52dB ± 3dB
- power supply : 1.5-12V DC / 0.8mA
- equivalent noise level : 34dB
- plug : 1/8" male

MULTIMEDIA MICROPHONE ▸▸ HSM6



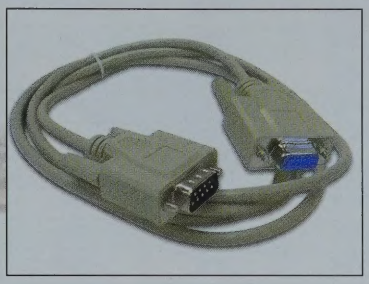
SPECIFICATIONS :
- frequency range : 20-16000Hz
- impedance : 24 ohm
- max. power input : 0.5mA
- sensitivity : -68dB at 1kHz
- plug : 1/8" stereo jack
- cord length : ± 6ft

MULTIMEDIA STEREO COMMUNICATION HEADPHONES WITH MICROPHONE ▸▸ HSM7

SPECIFICATIONS :
- sensitivity microphone : 58 ± 2dB
- impedance : 32 ohm (1kHz)
- sensitivity : 105dB/mW
- frequency response : 8Hz ~ 22kHz
- cable length : ± 2m
- weight : ± 200g (without cable)

COMPUTER CABLES

SERIAL CABLES SUBD9 MALE - SUBD9 FEMALE



part name	length
CW014	6.6ft

USB ADAPTERS

USB ADAPTER - USB A MALE TO PS2 FEMALE ▸▸ CW089

This PS/2-USB adapter allows you to use your PS/2 compatible mouse and keyboard as USB compatible devices.

FEATURES :
- compliant with USB HID specifications
- USB powered
- fully compatible with PS/2 keyboard / mouse
- supports USB and PS/2 plug-and-play
- also supports 2 PS/2 keyboards or 2 mice
- supports standard Windows multimedia keys
- supports Windows 98/SE/ME/2000/XP and Mac OS9.0/ OSX/Linux

SPECIFICATIONS :
- keyboard adapter
- mini-DIN 6pin female / USB A male

G

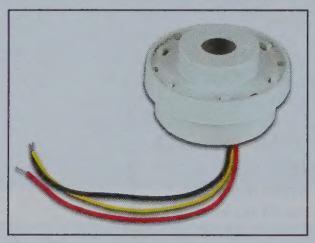
BUZZERS

part name	tone type	operating voltage	rated voltage	current consumption	osc. frequency	sound level	connector type	body color	weight
SV1	single / pulse	1-13V DC	12V DC	30mA	2.9kHz	105dB	leads	white	0.77oz
SV4	single	1.5-15V Dc	12V DC	12mA	2.8kHz	90dB	leads	black	0.35oz
SV2	single	4-15V DC	12V DC	15mA	2.8kHz	85dB	pcb	black	0.31oz
SV4/12-S	single	8-16V DC	12V DC	15mA	3.2kHz	85dB	pcb	beige	0.056oz
SV4/5-S	single	3-6V DC	5V DC	25mA	3.2kHz	87dB	pcb	gray	0.056oz
SV8	single	3-16V DC	12V DC	6mA	4kHz	85dB	pcb	black	0.035oz
SV5	single / pulse	3 - 28V DC	12V DC	8mA	3.5kHz	90dB	screw	gray	0.77oz
SV10	single / pulse	3-28V DC	12V DC	8mA	2.9kHz	90dB	faston	black	1.2oz
SVM06	single	3-7V DC	6V DC	20mA	300-500Hz	75dB	leads	black	0.35oz
SVM12	single	7-17V DC	12V DC	15mA	300-500Hz	75dB	leads	black	0.35oz
SVM24	single	16-30V DC	24V DC	20mA	300-500Hz	75dB	leads	black	0.35oz

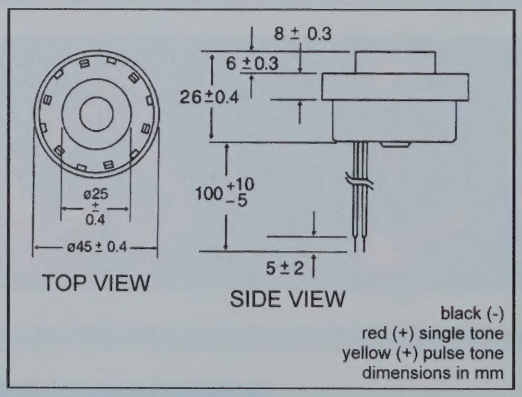
SINGLE-PULSE BUZZERS

The Velleman electric piezo buzzers are specifically designed for applications requiring a highly reliable alarm or signal with a completely solid state and no electromechanical contact (oscillating circuit is built in). They are replacing the conventional electromagnetic buzzers because of their low power consumption, the extremely clear and penetrating sound, the absence of electrical noise, their compact design and their limited weight. A variety of models is available for various tone functions.

SINGLE-PULSE/TONE BUZZER 1-13V DC / 20-30mA W/LEADS ▸▸ SV1

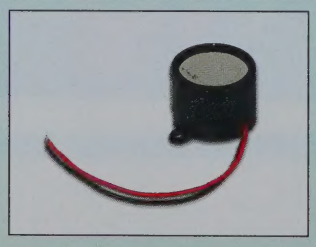


FEATURES :
- clear penetrating tone
- high sound pressure level
- low power consumption
- compatible with all traditional burglar alarms
- operating power : 1-13V DC / 30mA

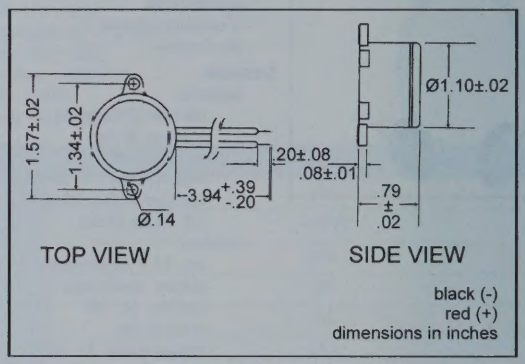


SUBMINIATURE BUZZERS

ECONOMIC BUZZER 4-15V DC / 15mA W/LEADS ▸▸ SV4

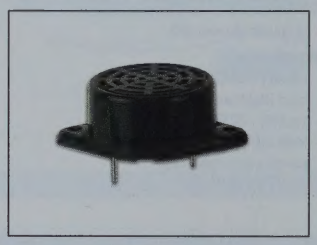


FEATURES :
- flange-mounted
- operating power : 4-15V DC / 15mA

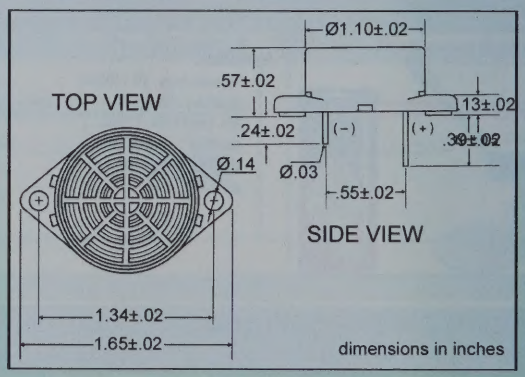


PCB BUZZERS

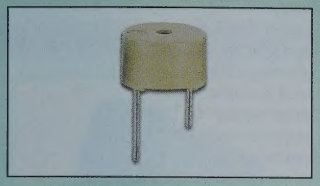
BUZZER 4-15V DC / 15mA PCB TYPE ▸▸ SV2



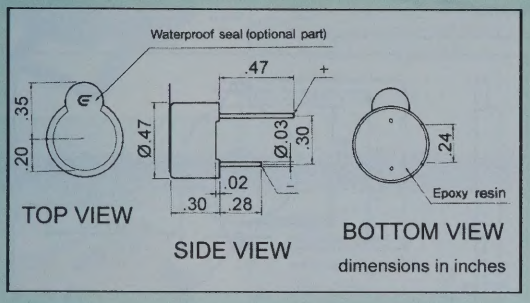
FEATURES :
- PCB-mounting type
- for portable equipment
- operating power : 4-15V DC / 15mA



PCB MINI BUZZERS



FEATURES :
- extremely compact, ultrathin construction
- no electrical noise
- low current consumption yet high sound pressure level



MICRO BUZZER 12V DC / 20mA PCB TYPE - SEALED ▸▸ SV4/12-S

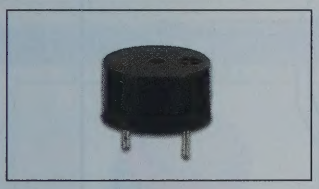
FEATURES :
- sealed : yes
- operating power : 8-16V DC / 15mA

MICRO BUZZER 5V DC / 20mA PCB TYPE - SEALED ▸▸ SV4/5-S

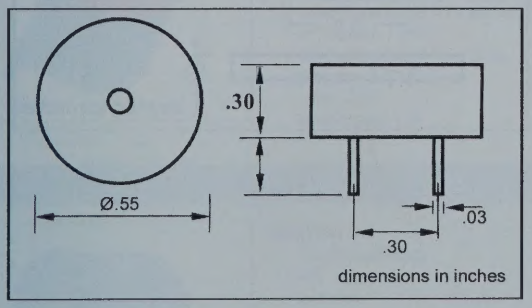
FEATURES :
- sealed : yes
- operating power : 3-6V DC / 25mA

ECONOMICAL PCB MINI BUZZERS

ECONOMIC SUBMINIATURE BUZZER 3-16V DC / 8mA PCB TYPE ▸▸ SV8

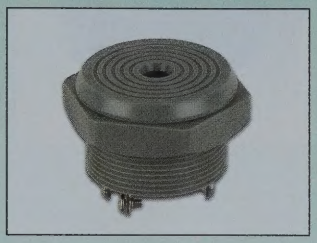


FEATURES :
- extremely small dimensions : extremely small dimensions
- loud sound output
- low power consumption
- operating power : 3-16V DC / 6mA

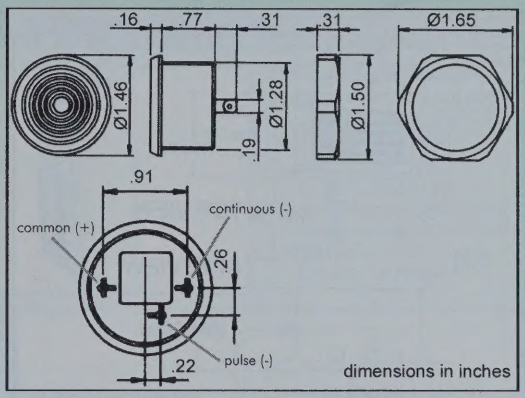


PANEL-MOUNTED BUZZERS

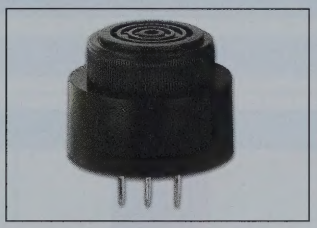
PANEL-MOUNTING BUZZER 4-28V DC / 8mA PCB TYPE ▸▸ SV5



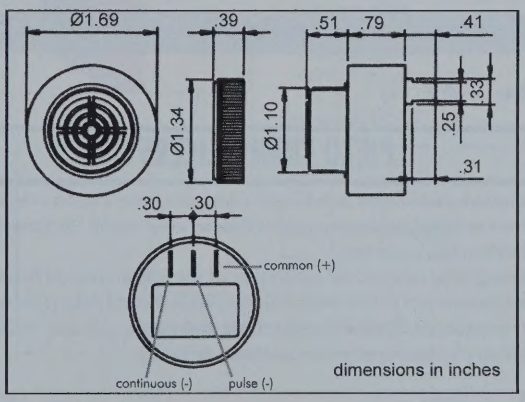
FEATURES :
- panel-mounting type with screw connectors
- continuous or pulse mode
- high sound pressure level
- operating power : 4-28V DC / 8mA



MAGNETIC BUZZER 6-28V DC FAST-ON TYPE ▸▸ SV10



FEATURES :
- panel-mounting type with fast-on connectors
- continuous or pulse mode
- operating power : 3-28V DC / 8mA



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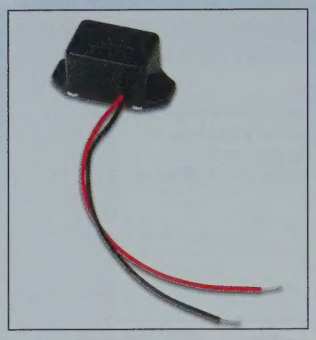
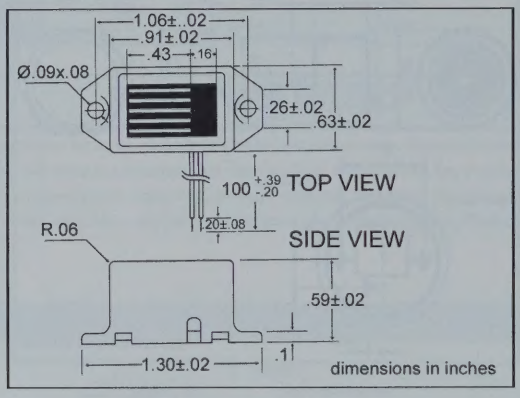
SOLID-STATE BUZZERS



FEATURES :
- buzzer with built-in oscillator
- flange mounting
- ABS case



SOLID-STATE BUZZER 3 - 7V DC / 20mA W/LEADS ▸▸ SVM06

FEATURES :
- operating power : 3-7V DC / 20mA

SOLID-STATE BUZZER 7-17V DC / 15mA W/LEADS ▸▸ SVM12

FEATURES :
- operating power : 7-17V DC / 15mA

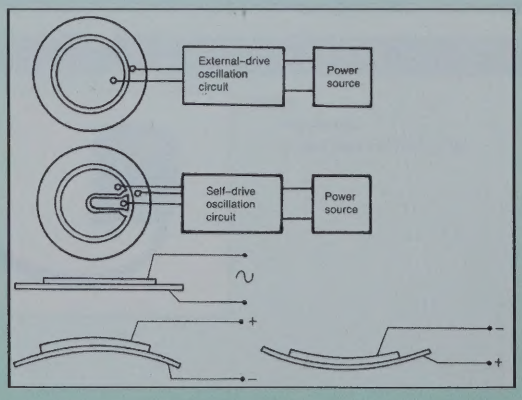
SOLID-STATE BUZZER 16-30V DC / 15mA W/LEADS ▸▸ SVM24

FEATURES :
- operating power : 16-30V DC / 15mA

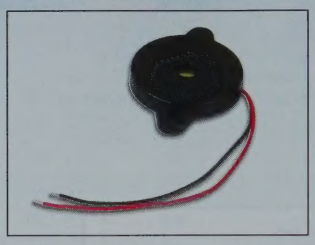
PIEZO TRANSDUCERS

The piezoelectric ceramic buzzer has a simple structure in which a ceramic piezo-element is glued to a vibration plate. The piezoceramic element expands or shrinks diametrically when an alternating voltage is applied. This characteristic is used to bend the vibration plate, which generates sound.

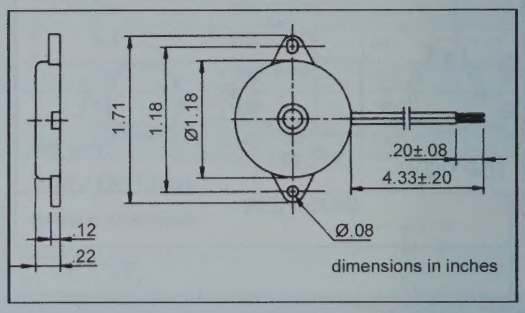
The acoustic generating method can be subdivided roughly into the self-drive oscillation method and the external drive oscillation method. The former yields the lowest impedance on the acoustic generator and produces sound through the oscillator circuit's positive feedback. This allows the creation of sound pressure using a simple circuit. The external drive oscillation method uses a fixed frequency and produces sound through the oscillator.



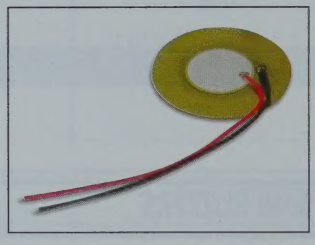
PIEZO TRANSDUCER 5Vac 4.5kHz 90dB LEAD TYPE ▸▸ TV1



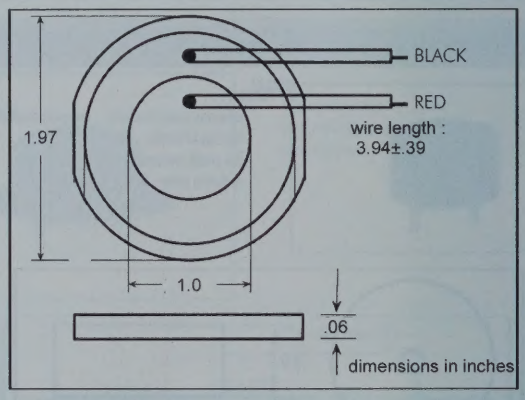
SPECIFICATIONS :
- tone type : external drive
- operating voltage : 3-28Vac
- rated voltage : 5Vac
- current consumption : 1.5mA
- resonant frequency : 4.5 ″ 0.5kHz
- sound pressure level : 90dB
- connector type : leads
- body colour : black
- weight : 4g



PIEZO TRANSDUCER 30Vac 0.5-20Hz 75dB LEAD TYPE ▸▸ TV4

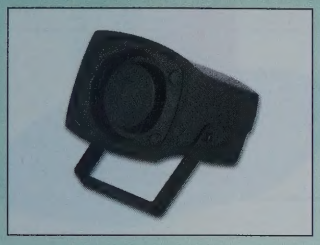


SPECIFICATIONS :
- tone type : piezo speaker
- operating voltage : 30Vac
- rated voltage : 15Vac
- current consumption : 1.5mA
- resonant frequency : 0.5-20 ″ 0.5kHz
- sound pressure level : 75dB
- connector type : leads
- body colour : metal
- weight : 3g



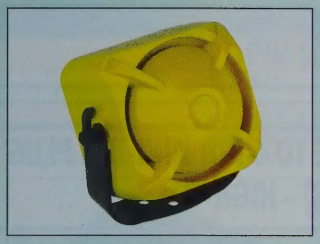
SIRENS

MINI PIEZO SIREN 6-12V DC / 140mA 107dB W/LEADS — SV/PS1



SPECIFICATIONS :
- ABS
- wired siren
- operating voltage : 6-15Vdc
- current consumption (at 12Vdc with siren) : 140mA
- oscillating frequency : 1.5-3.5kHz
- sound pressure level (at 1m) : 107dBA
- dimensions : 1.5" x 1.7" x 2.2"
- weight : 1.65oz
- mounting holes : 0.87"

WATER-RESISTANT SIREN 12V DC / 1300mA 125dBA W/LEADS — SV/PS12



SPECIFICATIONS :
- water-resistant
- with mounting bracket
- color : yellow
- operating voltage : 12Vdc
- current consumption (at 12Vdc with siren) : 1300mA
- sound pressure level (at 1m) : 125dB
- dimensions : 3.1" x 3.1" x 3.3"
- weight : 18.3oz

ELECTRONIC SIREN 6-12V DC / 1300mA 125dB W/LEADS — SV/PS5

SPECIFICATIONS :
- ABS
- wired siren
- operating voltage : 6-12Vdc
- current consumption (at 12Vdc with siren) : 1300mA
- osc. frequency : 0.9-4kHz
- sound pressure level (at 1m) : 125dBA
- dimensions : 3.9" x 4.3"(Ø)
- weight : 15oz
- mounting holes : 2.0" x 1.9"

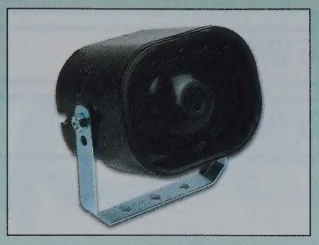
SMALL SIREN 5-15V DC / 250mA 120dB W/LEADS — SV/PS6

SPECIFICATIONS :
- ABS
- wired siren
- good dimensions/sound ratio
- operating voltage : 5-15Vdc
- current consumption (at 12Vdc with siren) : 250mA
- osc. frequency : 1.5-4kHz
- sound pressure level (at 1m) : 120dBA
- dimensions : 2.1" x Ø2.2"
- weight : 3.7oz
- mounting holes : 1.18"

PIEZO SIREN 6-12V DC / 160mA 115dB W/LEADS — SV/PS7

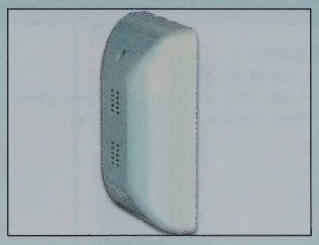
SPECIFICATIONS :
- for general applications
- ABS
- wired siren
- operating voltage : 6-15Vdc
- current consumption (at 12Vdc with siren) : 160mA
- osc. frequency : 1.5-3.5kHz
- sound pressure level (at 1m) : 115dBA
- dimensions : 3.1" x Ø3.0"
- weight : 5.3oz
- mounting holes : 2.2" x 1.5"

SIREN WBATTERY BACKUP 12V DC / 1200mA 125dB W/LEADS — SV/PS8



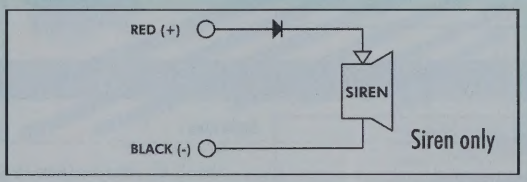
SPECIFICATIONS :
- high-quality siren with built-in Ni-Cd back-up battery, positive and negative trigger input
- with 2 keys
- ABS
- wired siren
- operating voltage : 12V DC
- current consumption (at 12Vdc with siren) : 1200mA (10mA in standby)
- osc. frequency : 1.5-3.5kHz
- sound pressure level (at 1m) : 125dBA
- dimensions : 3.5" x Ø3.6"
- weight : 21.8oz
- mounting holes : 1.9"

EXTERNAL SIREN FOR CONCEALED INSTALLATION — SV/PS93

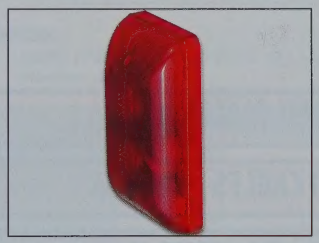


Outdoor siren for concealed installation.

SPECIFICATIONS :
- operating power : 10 - 14V DC / 150mA max.
- siren output : 120dB
- power cord : 10.6" (" 10%)
- can easily be affixed to a wall
- operating frequency : 2.4kHz - 3.7kHz (" 30%)
- operating temperature : -4±F to +140±F max. (10 min.)
- color : ivory
- dimensions : 4.8" x 2.8" x 1.4"

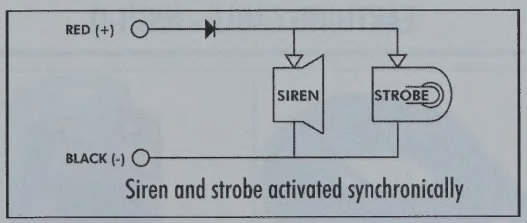


OUTDOOR SIREN & STROBE FOR CONCEALED INSTALLATION — SV/PSL1



FEATURES :
- weatherproof, UV-proof, hi-impact (polycarbonate housing)
- dual strobe flashlight (Philips bulbs)
- protected against polarity reversal

SPECIFICATIONS :
- operating power : 10 - 14V DC / 500mA
- siren output : 120dB
- luminous flux of strobe : 25lm
- power cord : available
- easy to affix to a wall
- color : red
- dimensions : 4.8" x 2.8" x 1.4"



H

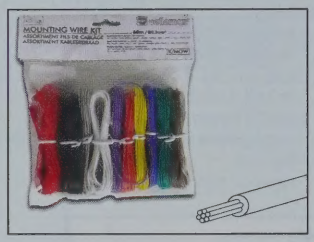
CABLES

MOUNTING WIRES

MOUNTING WIRE (sqt 0.008")

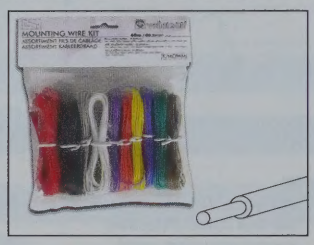
SPECIFICATIONS :
- AWG24
- internal Ø : 7 x 0.007" (sqt 0.008")
- external Ø : 0.055"
- max. voltage : 60V
- max. current : 4.3A
- PVC insulation
- tinned CU

10 COLOR - STRANDED MOUNTING WIRE KIT 60m ▸▸ K/MOW



SPECIFICATIONS :
- multicore, sqt 0.008"
- colors : 16.4ft : white / blue / brown / green / yellow / orange / gray / violet + 32.8ft : black / red

10 COLOR - SOLID CORE MOUNTING WIRE KIT 60m ▸▸ K/MOWM



SPECIFICATIONS :
- full core, sqt 0.008"
- colors : 16.4ft : white / blue / brown / green / yellow / orange / gray / violet + 32.8ft : black / red

AUDIO & VIDEO CABLES

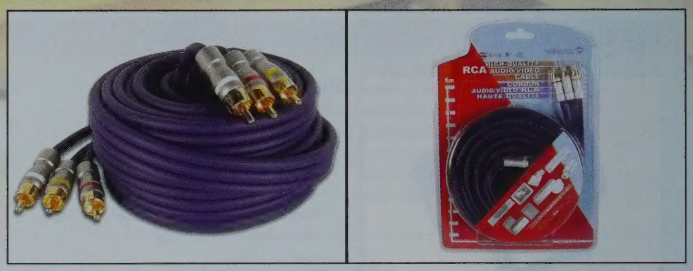
HIGH-Q AUDIO-VIDEO CABLES - BLISTER -

2 x RCA PLUG MALE TO 2 x RCA PLUG MALE + EARTHING CABLE - HIGH-Q

FEATURES :
- gold-plated connectors
- high-quality, shielded, Cu braid
- 2 separate cables for signal transfer
- with earthing cable

part name	length
AVW150-1.5	4.9ft
AVW150-5	16.4ft
AVW150-10	32.8ft

3 x RCA PLUG MALE TO 3 x RCA PLUG MALE - HIGH-Q



FEATURES :
- gold-plated connectors
- high-quality, shielded, Cu braid
- 3 separate cables for high-quality signal transfer

part name	length
AVW151-5	16.4ft
AVW151-10	32.8ft

4-PIN MINI-DIN PLUG MALE TO 4-PIN MINI-DIN PLUG MALE (S-VHS) - HIGH-Q

FEATURES :
- true video performance
- ideal for all DVD's, VCR's, game consoles, audio/video receivers, televisions and any other equipment that features S-Video inputs / outputs applications
- use this cable when connecting and S-Video device to another S-Video ready device
- gold-plated contacts

part name	length
AVW149-1.5	4.9ft
AVW149-3	9.8ft
AVW149-7	23.0ft

AUDIO & VIDEO CABLES (SCART) - STANDARD Q

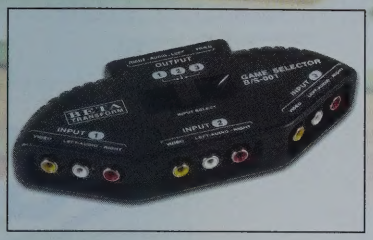
ADAPTERS 4P MINI DIN TO RCA

part name	description	remark
AVW139	female 4-pin mini-DIN to male RCA	gold-plated

part name AVW139

3-CHANNEL AUDIO/VIDEO SWITCHER

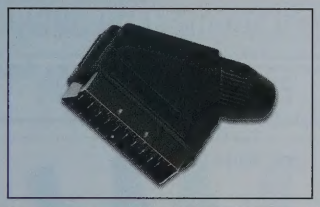
part name	dimensions	weight	audio/video switcher
AVW089	6.3" x 2.6" x 1.2"	3.5 oz.	3 inputs -> 1 output



part name AVW089

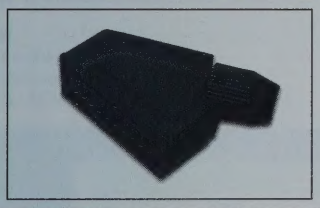
21-PIN SCART PLUGS

21-PIN SCART - MALE



part name	type	color
SCARTM	solder model	black

21-PIN SCART - FEMALE



part name	type	color
SCARTF	solder model	black

FIBRE OPTIC CABLES & CONNECTORS - HIGH-Q

FIBRE OPTIC CABLE, 2 x TOSLINK MALE, 1m ▸▸ AVW092

FEATURES :
- fibre optic cable of superior quality for data transmission
- fitted with heavy-duty Toslink connectors with protection caps

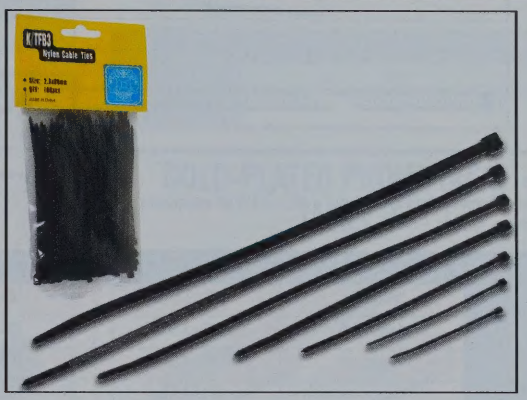
SPECIFICATIONS :
- 2 x male connectors
- cable :
  - with Ø 6mm for ultra low transmission loss
  - length : 1m

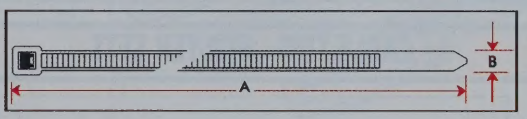
GLASS FIBRE OPTIC CABLE, 2 x TOSLINK MALE (1.5m) ▸▸ AVW145

FEATURES :
- glass fibre optical cable with spring-loaded Toslink-Toslink connectors, exceptional quality
- glass fibre core
- high-resolution digital audio throughput
- ideal for home theatre, DVD, D-VHS, hifi, professional audio, DVD audio, SACD, CD, Dolby digital & DTS

CABLE ACCESSORIES

CABLE TIES

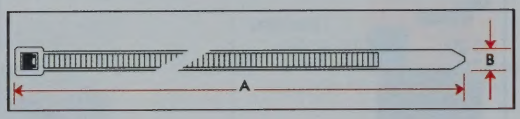




SPECIFICATIONS :
- material : polyamide (nylon 6.6) as specified in MIL-S-23190 self-extinguishing
- temperature : -40±F to 230±F

part name	colour	dimensions (A x B)	quantity
K/TFB3	black	98 x 2.5mm	100pcs
K/TFB4	black	140 x 3.6mm	100pcs
K/TFB5	black	200 x 4.8mm	100pcs
K/TFB6	black	290 x 4.8mm	100pcs

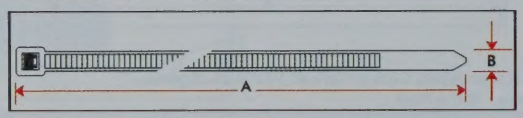
CABLE TIES - TRANSPARENT



Specifications :
- material : polyamide (nylon 6.6) as specified in MIL-S-23190 self-extinguishing
- temperature : -40±C to +110±C

part name	colour	dimensions (A x B)	quantity
TF3	transparent	98 x 2.5mm	100 pcs
TF4	transparent	140 x 3.6mm	100 pcs
TF5	transparent	200 x 4.8mm	100 pcs
TF6	transparent	290 x 4.8mm	100 pcs

CABLE TIES - BLISTER SETS



Specifications :
- material : polyamide (nylon 6.6) as specified in MIL-S-23190 self-extinguishing
- temperature : -40±F to +230±F

75 pc CABLE TIES IN BLISTER PACK ▸▸ K/TF

Specifications :
- dimensions (A x B) : quantity / color
  - 3 x 3.9" : 25 pcs transparent
  - 5 x 4.7" : 25 pcs transparent
  - 5 x 7.9" : 25 pcs transparent
- total : 75 pcs

300 pc CABLE TIES IN PLASTIC CAN ▸▸ K/TF300

Specifications :
- dimensions (A x B) : quantity / color
  - 2.5 x 3.9" : 25 pcs green, 25 pcs yellow, 25 pcs black, 25 pcs red, 50 pcs transparent
  - 3.5 x 7.9" : 50 pcs red, 50 pcs blue, 50 pcs transparent
- total number : 300 pcs

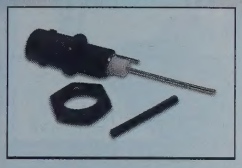
1000 pc CABLE TIES IN PLASTIC CAN ▸▸ K/TF1000

Specifications :
- dimensions (A x B) : quantity / color
  - 2.5 x 3.9" : 100 pcs blue, 100 pcs red, 100 pcs white, 100 pcs yellow
  - 3.5 x 5.9" : 100 pcs white, 100 pcs blue, 100 pcs green
  - 3.6 x 7.9" : 200 pcs white
  - 3.6 x 11.8" : 100 pcs white
- total : 1000 pcs

BNC CONNECTORS

BNC PANEL MOUNTING

BNC FEMALE, PANEL MOUNTING, INSULATED



SPECIFICATIONS :
- mounting hole : Ø 0.35"
- for soldering
- centre-pin insert

part name	mounting	remark
BNCICHAS	panel	IEC1010

PHONO (RCA) CONNECTORS

PHONO (RCA) PLUGS

SPECIFICATIONS :
- boot in molded plastic
- solder connections
- for cable : Ø 0.16"

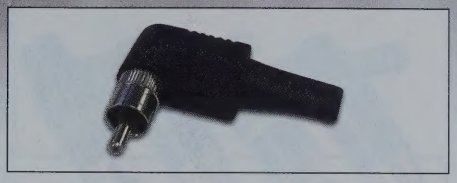
part name	boot color
CA047B	black
CA047G	green
CA047R	red
CA047W	white
CA047Y	yellow

PHONO (RCA) JACKS

SPECIFICATIONS :
- boot in molded plastic
- solder connections
- for cable : Ø 0.16"

part name	boot color
CA054B	black
CA054G	green
CA054R	red
CA054W	white
CA054Y	yellow

RIGHT-ANGLE PHONO (RCA) PLUGS



SPECIFICATIONS :
- rubber cable guide
- type : right-angle
- screw connections

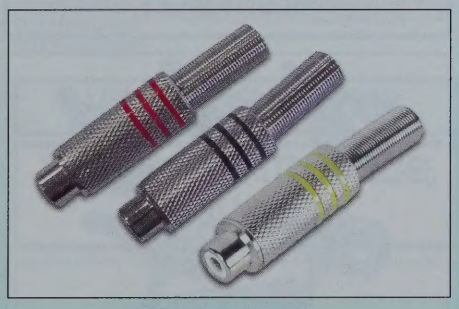
part name	boot color
CA119	black

NICKEL-PLATED PHONO (RCA) PLUGS

SPECIFICATIONS :
- spring cable guide
- with colored identification ring
- for cable : Ø 0.24"
- solder connections

part name	boot color
CA063B	black
CA063R	red

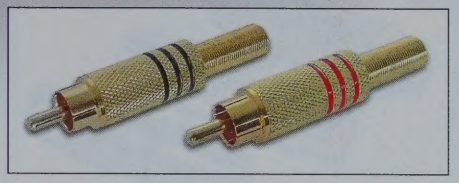
NICKEL-PLATED PHONO (RCA) JACKS



SPECIFICATIONS :
- spring cable guide
- with colored identification ring
- for cable : Ø 0.24"
- solder connections

part name	boot color
CA064B	black
CA064R	red

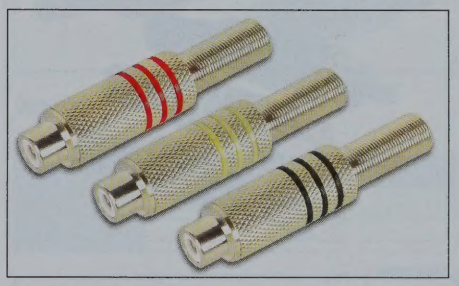
GOLD-PLATED PHONO (RCA) PLUGS



SPECIFICATIONS :
- gold-plated
- spring cable guide
- with colored identification ring
- for cable : Ø 0.24"
- solder connections

part name	boot color
CA048B	black
CA048R	red

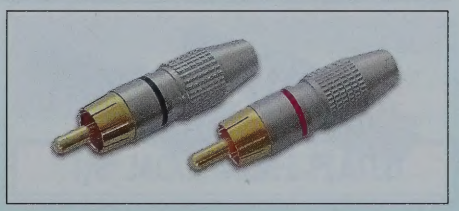
GOLD-PLATED PHONO (RCA) JACKS



SPECIFICATIONS :
- gold-plated
- spring cable guide
- solder connections
- for cable : Ø 0.24"

part name	boot color
CA059B	black
CA059R	red

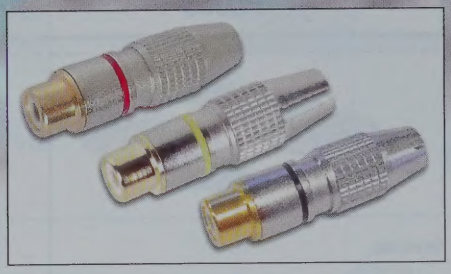
GOLD-TIP PHONO (RCA) PLUGS



SPECIFICATIONS :
- with colored identification ring
- for cable : Ø 0.24"
- solder connections

part name	boot color
CA049B	black
CA049R	red

GOLD-TIP PHONO (RCA) JACKS



SPECIFICATIONS :
- with colored identification ring
- for cable : Ø 0.24"

part name	boot color
CA058B	black
CA058R	red

GOLD-TIP PHONO (RCA) PLUGS, BLACK HOUSING

SPECIFICATIONS :
- spring cable guide
- with colored identification ring
- for cable : Ø 0.28"
- solder connections

part name	ring color
CA052R	red
CA052W	white

GOLD-TIP PHONO (RCA) JACKS, BLACK HOUSING

SPECIFICATIONS :
- spring cable guide
- with colored identification ring
- for cable : Ø 0.28"
- solder connections

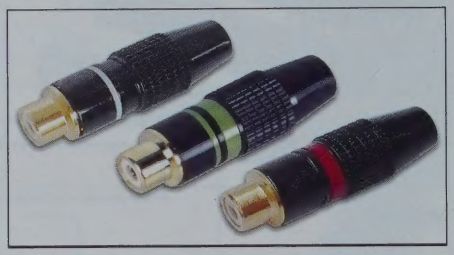
part name	boot color
CA062R	red
CA062W	white

GOLD-TIP PHONO (RCA) PLUGS, BLACK HOUSING

SPECIFICATIONS :
- with colored identification ring
- for cable : solder connections
- for cable : Ø 0.31"

part name	ring color
CA051R	red
CA051W	white

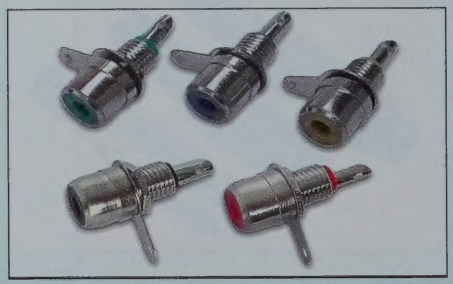
GOLD-TIP PHONO (RCA) JACKS, BLACK HOUSING



SPECIFICATIONS :
- with colored identification ring
- for cable : 0.31"
- solder connections

part name	ring color
CA061R	red
CA061W	white

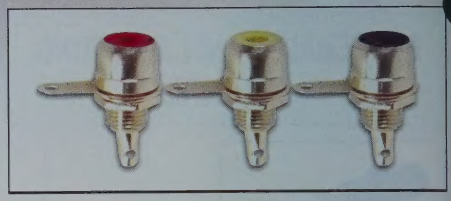
NICKEL-PLATED RCA PANEL-MOUNT JACKS



SPECIFICATIONS :
- hole : Ø 0.24"
- panel thickness : max. 0.19"
- insulation : colored nylon

part name	color
CA055B	black
CA055R	red
CA055W	white
CA055Y	yellow

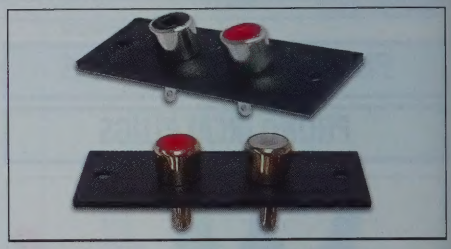
GOLD-PLATED RCA PANEL-MOUNT JACKS



SPECIFICATIONS :
- chassis mount - hole : Ø 0.24" - panel thickness : max. 0.19"

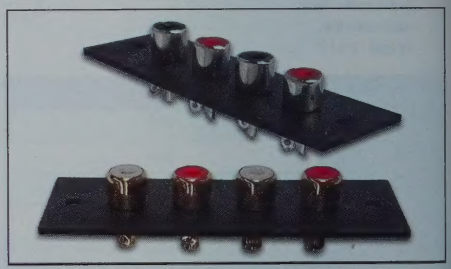
part name	color
CA056B	black
CA056R	red

1 X 2P RCA JACKS



part name	material	dimensions
CA065	nickel plated	2.0" x 0.8"
CA070	gold-plated	2.0" x 0.8"

1 X 4P RCA JACKS



part name	material	dimensions
CA066	nickel plated	3.0" x 1.0"
CA071	gold plated	3.0" x 1.0"

2 X 2P RCA JACKS

part name	material	dimensions
CA067	nickel plated	2.0" x 1.4"
CA072	gold plated	2.0" x 1.4"

J

3 X 2P RCA JACKS

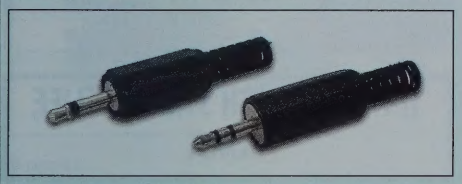
part name	material	dimensions
CA068	nickel plated	2.3" x 1.4"
CA073	gold plated	2.3" x 1.4"

4 X 2P RCA JACKS

part name	material	dimensions
CA069	nickel plated	3.0" x 1.4"
CA074	gold plated	3.0" x 1.4"

2.5mm (3/32") PHONE CONNECTORS

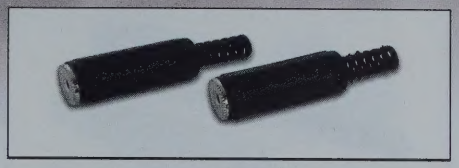
2.5mm (3/32") PLUGS WITH STRAIN RELIEF, BLACK



Specifications :
- boot in molded plastic
- for cable : Ø 0.16"
- solder connections

part name	type
CA001	mono
CA002	stereo

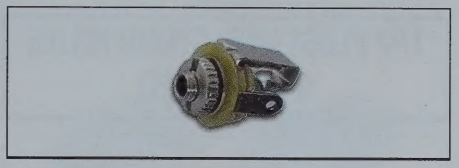
2.5mm (3/32") JACKS WITH STRAIN RELIEF, BLACK



Specifications :
- boot in molded plastic - for cable : Ø 0.16" - solder connections

part name	type
CA007	mono
CA008	stereo

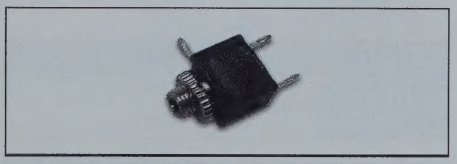
2.5mm (3/32") PANEL-MOUNT JACKS



Specifications :
- with insert switch - solder connections

part name	type
CA013	mono

2.5mm (3/32") PANEL-MOUNT JACKS

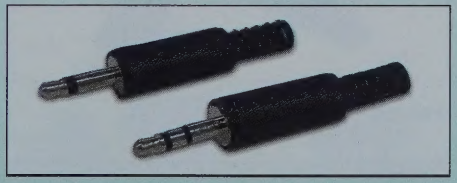


Specifications :
- with insert switch - solder connections

part name	type
CA014	mono

1/8" PHONE CONNECTORS

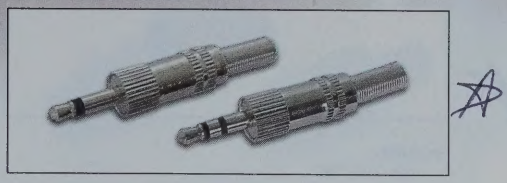
1/8" PLUGS WITH STRAIN RELIEF, BLACK



Specifications :
- boot in molded plastic - for cable : Ø 0.16" - solder connections

part name	type
CA110	.06 mono
CA111	.08 stereo

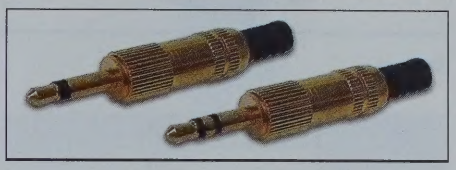
1/8" PLUGS WITH STRAIN RELIEF, NICKEL-PLATED



Specifications :
- spring cable guide - for cable : Ø 0.16" - solder connections

part name	type
CA003	.14 mono
CA004	.15 stereo

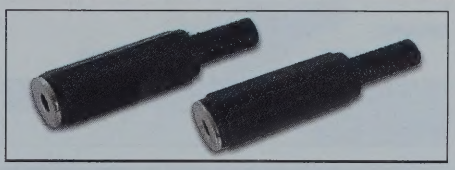
1/8" PLUGS WITH STRAIN RELIEF, GOLD-PLATED



Specifications :
- for cable : Ø 0.16" - solder connections

part name	type
CA005	.22 mono
CA006	.22 stereo

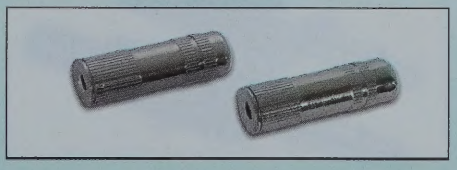
1/8" JACKS WITH STRAIN RELIEF, BLACK



Specifications :
- boot in molded plastic - for cable : Ø 0.16" - solder connections

part name	type
CA009	.14 mono
CA010	.14 stereo

1/8" JACKS, NICKEL-PLATED



Specifications :
- solder connections - maximum cable size : Ø4mm - spring cable guide

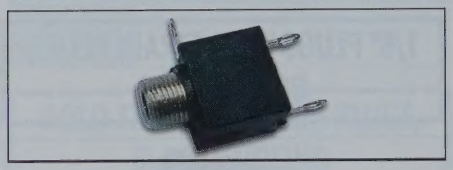
part name	type
CA011	.18 mono
CA012	.19 stereo

1/8" PANEL-MOUNT JACKS

Specifications :
- solder connections - with insert switch

part name	type
CA015	mono / close circuit

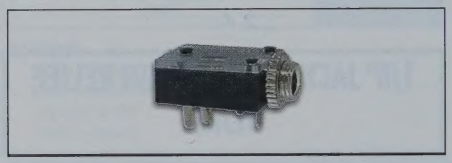
1/8" PANEL-MOUNT JACKS



Specifications :
- solder connections - with insert switch - in housing

part name	type
CA016	mono

1/8" PANEL-MOUNT JACKS, NICKEL-PLATED

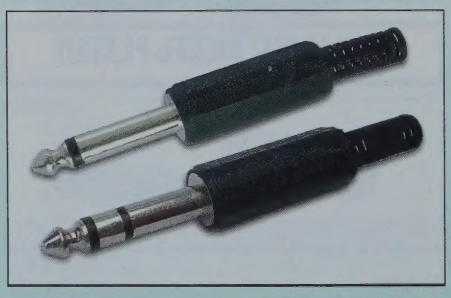


Specifications :
- solder connections - with stereo insert switch - in housing

part name	type
CA017	stereo

1/4" PHONE CONNECTORS

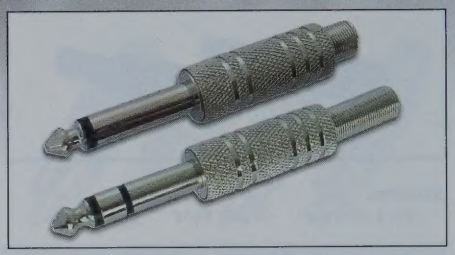
1/4" PLUGS WITH STRAIN RELIEF, BLACK



Specifications :
- solder connections - boot in molded plastic - for cable : Ø 0.24"

part name	type
CA019	mono
CA020	stereo

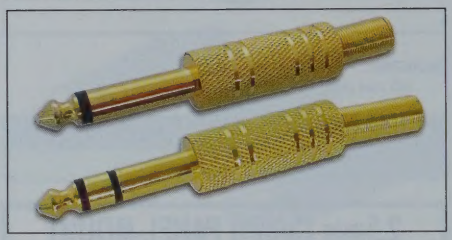
1/4" PLUGS WITH STRAIN RELIEF, NICKEL-PLATED



Specifications :
- solder connections
- spring cable guide
- for cable : Ø 0.24"

part name	type
CA021	mono
CA022	stereo

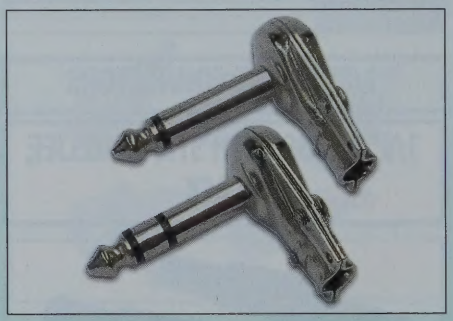
1/4" PLUGS WITH STRAIN RELIEF, GOLD-PLATED



Specifications :
- solder connections
- spring cable guide
- for cable : Ø 0.24"

part name	type
CA023	mono
CA024	stereo

RIGHT-ANGLE 1/4" PLUGS WITH STRAIN RELIEF, NICKEL-PLATED



Specifications :
- solder connections

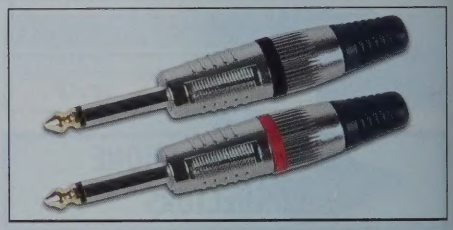
part name	type
CA025	mono
CA026	stereo

PROFESSIONAL 1/4" PLUGS - NICKEL

Specifications :
- solder connections

part name	boot color	type
CA027B	black	mono
CA027BL	blue	mono
CA027R	red	mono
CA028B	black	stereo
CA028R	red	stereo

PROFESSIONAL 1/4" MONO PLUGS WITH GOLDEN TIP



Specifications :
- solder connections

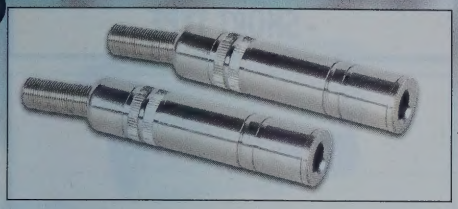
part name	color	type
CA120B	black ring	gold tip
CA120R	red ring	gold tip

1/4" JACKS WITH STRAIN RELIEF, BLACK

Specifications :
- nickel-plated - boot in molded plastic
- for cable : Ø 0.24" - for cable : solder connections

part name	boot color	type
CA033	black	mono
CA034	black	stereo

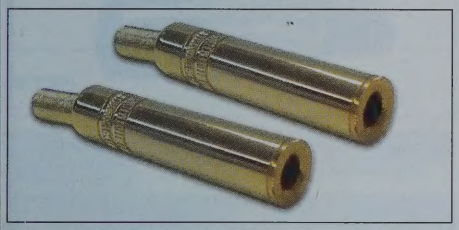
1/4" JACKS WITH STRAIN RELIEF, SILVER-PLATED



SPECIFICATIONS :
- silver-plated
- spring cable guide
- solder connections
- for cable : Ø 0.24"

part name	type
CA035	mono
CA036	stereo

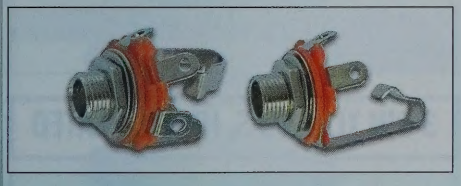
1/4" JACKS WITH STRAIN RELIEF, GOLD-PLATED



SPECIFICATIONS :
- gold-plated
- spring cable guide
- solder connections
- for cable : Ø 0.24"

part name	type
CA037	mono
CA038	stereo

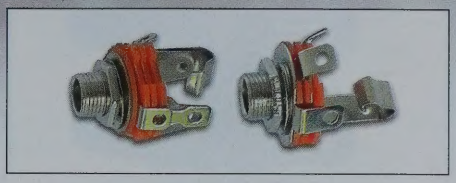
1/4" PANEL-MOUNT JACKS - OPEN CIRCUIT



SPECIFICATIONS :
- open circuit
- panel mount

part name	type
CA039	mono
CA041	stereo

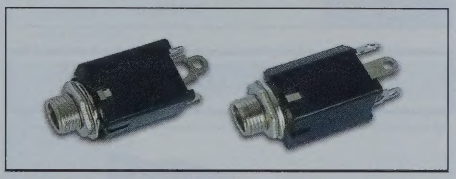
1/4" PANEL-MOUNT JACKS - CLOSED CIRCUIT

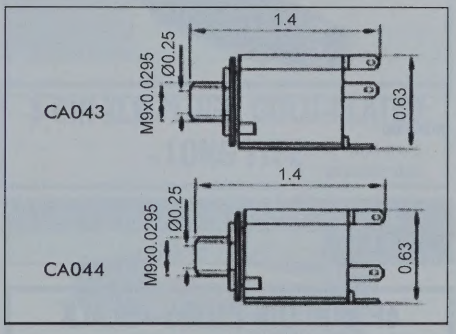


SPECIFICATIONS :
- open circuit
- panel mount
- with insert switch

part name	type
CA040	mono
CA042	stereo

1/4" PANEL-MOUNT JACKS - WITH SWITCH



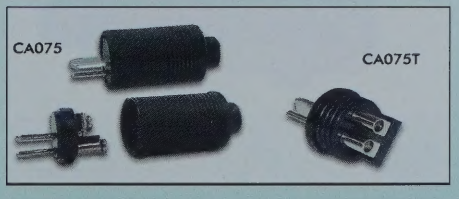


SPECIFICATIONS :
- closed circuit - with insert switch

part name	type
CA043	mono
CA044	stereo

2P DIN CONNECTORS

2P DIN PLUGS, BLACK, SCREW CONNECTION



SPECIFICATIONS :
- screw connections

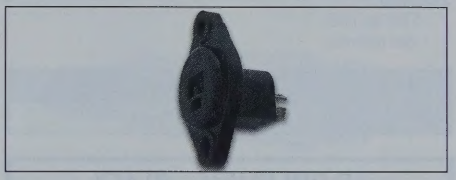
part name	boot color	remark
CA075	black	-

2P DIN JACKS, BLACK, SCREW CONNECTION

SPECIFICATIONS :
- screw connections

part name	boot color	remark
CA076	black	-

2P DIN PANEL-MOUNT JACKS

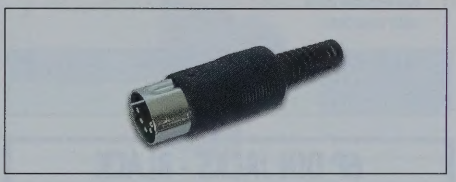


SPECIFICATIONS :
- solder connections

part name	color
CA077	black

AUDIO DIN CONNECTORS

5P DIN PLUGS - BLACK



SPECIFICATIONS :
- 5 pins over 180±
- boot in molded plastic
- solder connections

part name	boot color
CA082	black

5P DIN JACKS - BLACK

SPECIFICATIONS :
- 5 pins over 180±
- boot in molded plastic
- solder connections

part name	boot color
CA084	black

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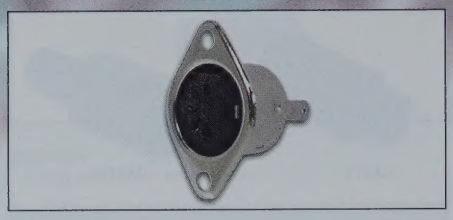
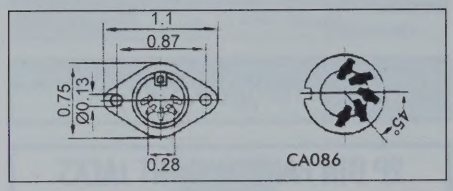
5P DIN PANEL-MOUNT JACKS - BLACK





Specifications :
- 5 pins over 180±
- solder connections

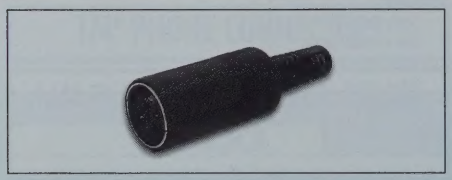
part name	type
CA086	panel-mount

6P DIN PLUGS - BLACK

Specifications :
- 5 pins over 240± + 1 centre pin
- boot in molded plastic
- solder connections

part name	boot color
CA083	black

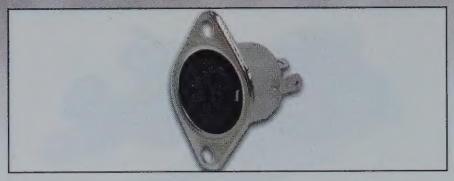
6P DIN JACKS - BLACK

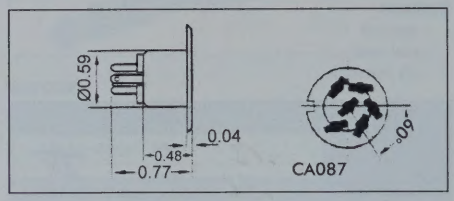


Specifications :
- 5 pins over 240± + 1 centre pin
- boot in molded plastic
- solder connections

part name	boot color
CA085	black

6P DIN PANEL-MOUNT JACKS - BLACK

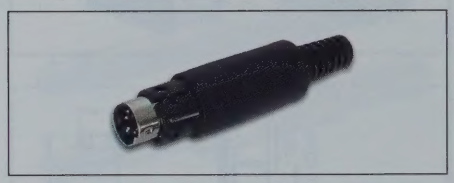




Specifications :
- 5 pins over 240± + 1 centre pin
- solder connections

part name	type
CA087	panel mount

4P MINI DIN PLUGS - BLACK



Specifications :
- boot in molded plastic
- solder connections

part name	boot color
CA088	black

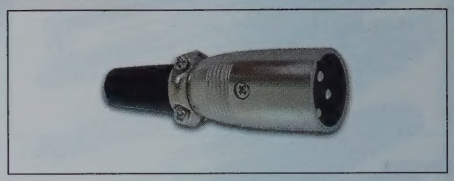
6P MINI DIN PLUGS - BLACK

Specifications :
- boot in molded plastic
- solder connections

part name	boot color
CA089	black

XLR CONNECTORS

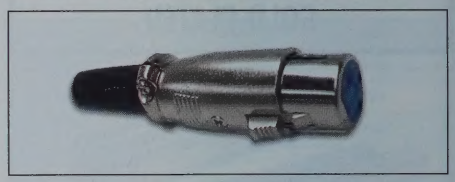
3-PIN XLR PLUGS, NICKEL-PLATED - SHORT TYPE



Specifications :
- solder connections

part name	type
CA093	short type / nickel finish

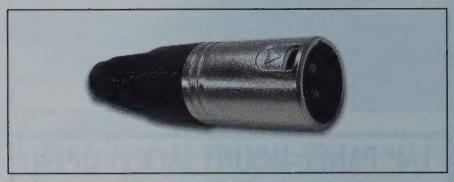
3-PIN XLR JACKS, NICKEL-PLATED - SHORT TYPE



Specifications :
- solder connections

part name	type
CA092	short type / nickel finish

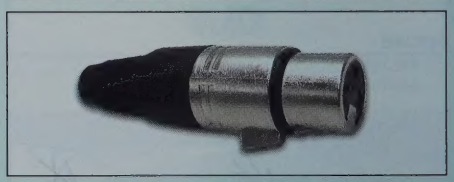
3-PIN XLR PLUGS, NICKEL-PLATED



Specifications :
- solder connections

part name	type
CA095	nickel finish

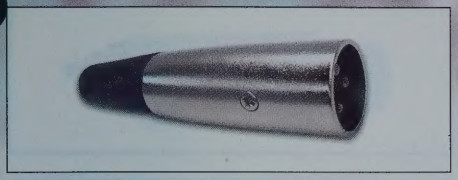
3-PIN XLR JACKS, NICKEL-PLATED



Specifications :
- solder connections

part name	type
CA094	nickel finish

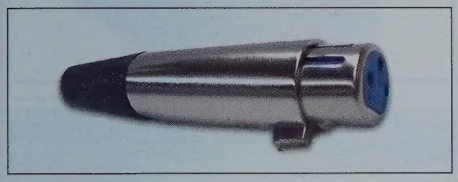
3-PIN XLR PLUGS, NICKEL-PLATED - LONG TYPE



SPECIFICATIONS :
- solder connections

part name	type
CA097	nickel finish

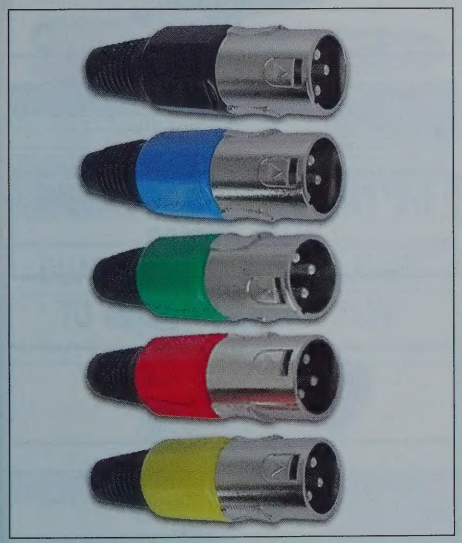
3-PIN XLR JACKS, NICKEL-PLATED - LONG TYPE



SPECIFICATIONS :
- solder connections

part name	type
CA096	nickel finish

3-PIN XLR PLUGS, NICKEL-PLATED



SPECIFICATIONS :
- nickel finish
- solder connections

part name	boot color
CA101B	black
CA101BL	blue
CA101G	green
CA101R	red
CA101Y	yellow

3-PIN XLR JACKS, NICKEL-PLATED

SPECIFICATIONS :
- nickel finish
- solder connections

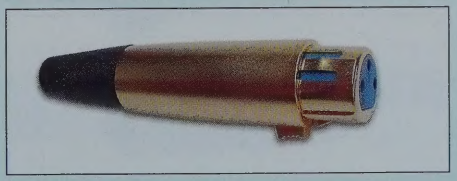
part name	boot color
CA100B	black
CA100BL	blue
CA100G	green
CA100R	red
CA100Y	yellow

3-PIN XLR PLUGS, GOLD-PLATED - LONG TYPE

SPECIFICATIONS :
- solder connections

part name	type
CA099	gold finish

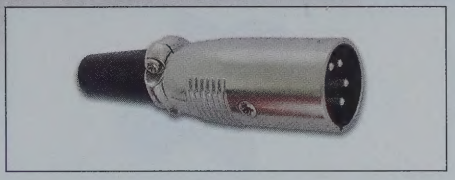
3-PIN XLR JACKS, GOLD-PLATED - LONG TYPE



SPECIFICATIONS :
- solder connections

part name	type
CA098	gold finish

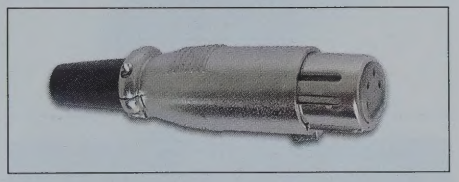
4-PIN XLR PLUGS, NICKEL-PLATED - SHORT TYPE



SPECIFICATIONS :
- solder connections

part name	type
CA103	nickel finish

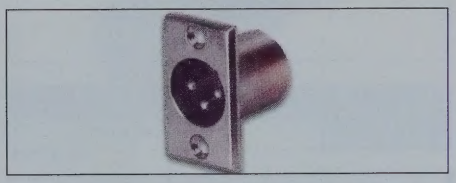
4-PIN XLR JACKS, NICKEL-PLATED - SHORT TYPE



SPECIFICATIONS :
- solder connections

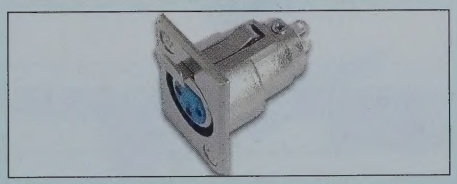
part name	type
CA102	nickel finish

3-PIN XLR PANEL-MOUNT PLUGS, NICKEL-PLATED



part name	type
CA105	nickel plated / panel mount

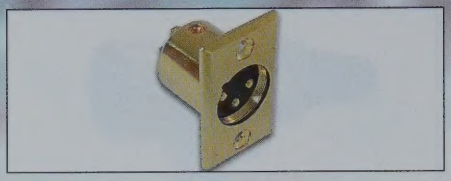
3-PIN XLR PANEL-MOUNT JACKS, NICKEL-PLATED



part name	type
CA104	nickel plated / panel mount

J

3-PIN XLR PANEL-MOUNT PLUGS, GOLD-PLATED

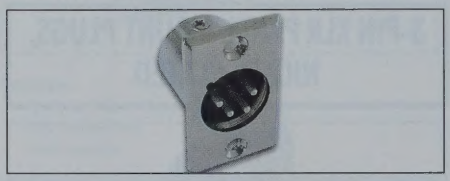


part name	type
CA107	gold plated / panel mount

3-PIN XLR PANEL-MOUNT JACKS, GOLD-PLATED

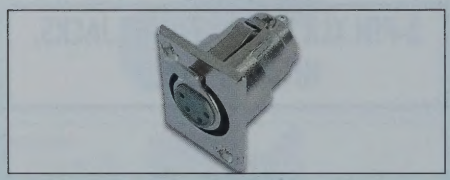
part name	type
CA106	gold finish / panel mount

4-PIN XLR PANEL-MOUNT PLUGS, NICKEL-PLATED



part name	type
CA109	nickel finish / panel mount

4-PIN XLR PANEL-MOUNT JACKS, NICKEL-PLATED

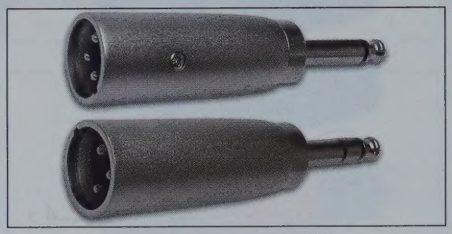


part name	type
CA108	nickel finish / panel mount

ADAPTERS FOR AUDIO

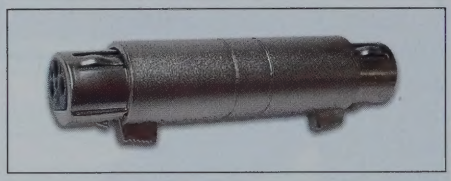
SPECIFICATIONS :
- blister-packed

3-PIN XLR PLUG TO 1/4" PHONE PLUG



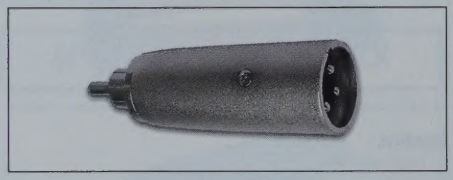
part name	type
CAA03	mono

3-PIN XLR JACK TO 3-PIN XLR JACK



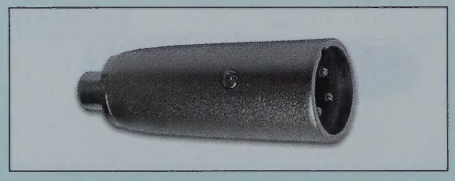
part name	type
CAA02	nickel finish

3-PIN XLR PLUG TO PHONO (RCA) PLUG



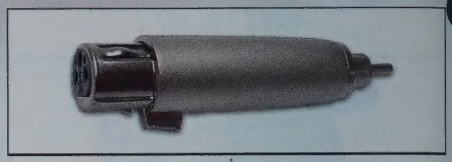
part name	type
CAA10	nickel finish

3-PIN XLR PLUG TO PHONO (RCA) JACK



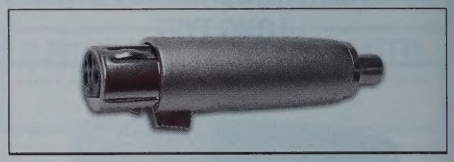
part name	type
CAA11	nickel finish

3-PIN XLR JACK TO PHONO (RCA) PLUG



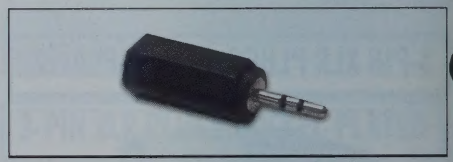
part name	type
CAA13	mono

3-PIN XLR JACK TO PHONO (RCA) JACK



part name	type
CAA12	mono

2.5mm (3/32") PHONE PLUG TO 1/8" PHONE JACK, STEREO

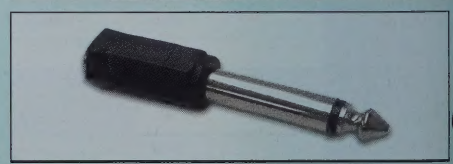


part name	type
CAA22	nickel plated

1/8" PHONE JACK TO 1/8" PHONE PLUG, STEREO

part name	type
CAA21	nickel plated

1/8" PHONE JACK TO 1/4" PHONE PLUG, MONO



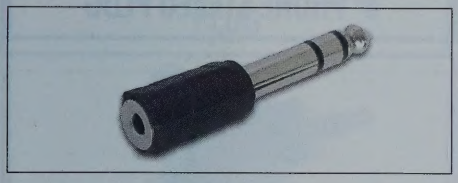
part name	type
CAA24	nickel plated

J

1/8" PHONE JACK TO PHONO (RCA) PLUG

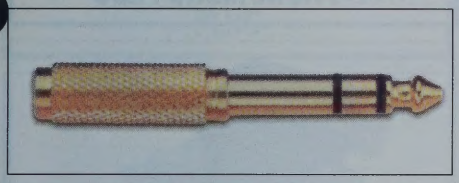
part name	type
CAA37	nickel plated

1/8" PHONE JACK TO 1/4" PHONE PLUG, STEREO



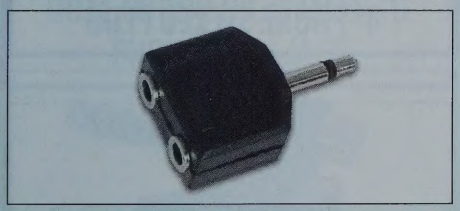
part name	type
CAA29	nickel plated

GOLD-PLATED 1/8" PHONE STEREO JACK TO 1/8" PHONE STEREO PLUG



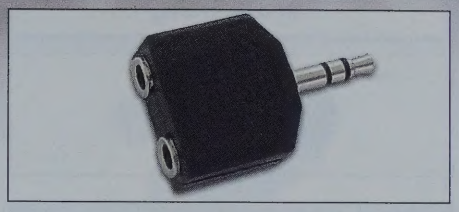
part name	type
CAA30	gold plated

DUAL 1/8" PHONE MONO JACKS TO 1/8" PHONE MONO PLUG



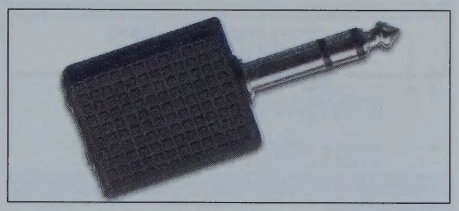
part name	type
CAA16	nickel plated

DUAL 1/8" PHONE STEREO JACKS TO 1/8" PHONE STEREO PLUG



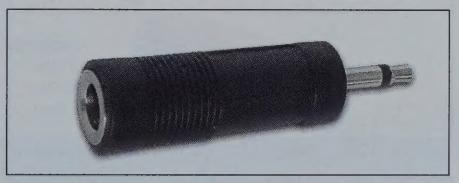
part name	type
CAA19	nickel plated

DUAL 1/8" PHONE STEREO JACKS TO 1/4" PHONE STEREO PLUG



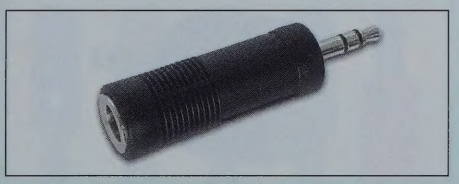
part name	type
CAA33	nickel plated

1/4" PHONE MONO JACK TO 1/8" PHONE MONO PLUG



part name	type
CAA14	nickel plated

1/4" PHONE MONO JACK TO 1/8" PHONE STEREO PLUG

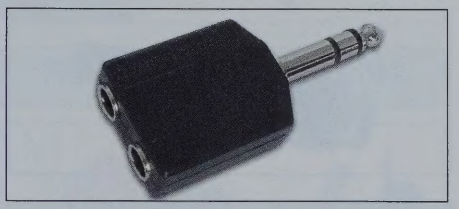


part name	type
CAA18	nickel plated

1/4" PHONE MONO JACK TO PHONO (RCA) PLUG

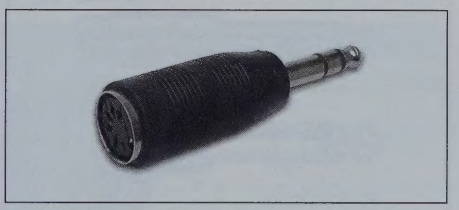
part name	type
CAA36	nickel plated

DUAL 1/4" PHONE STEREO JACKS TO 1/4" PHONE STEREO PLUG



part name	type
CAA34	nickel plated

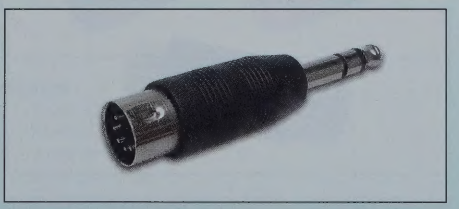
5P DIN JACK TO 1/4" PHONE STEREO PLUG



SPECIFICATIONS :
- 5P DIN connector : 5 pins over 180±

part name	type
CAA31	nickel plated

5P DIN PLUG TO 1/4" PHONE STEREO PLUG

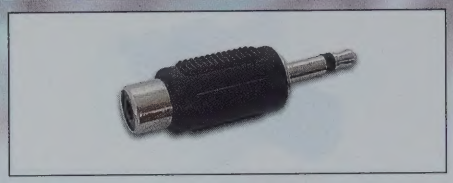


SPECIFICATIONS :
- 5P DIN connector : 5 pins over 180±

part name	type
CAA32	nickel plated

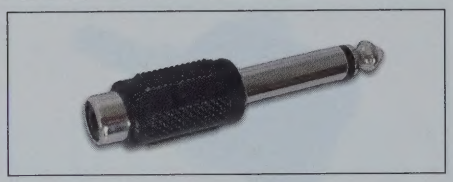
J

PHONO (RCA) JACK TO 1/8" PHONE MONO PLUG



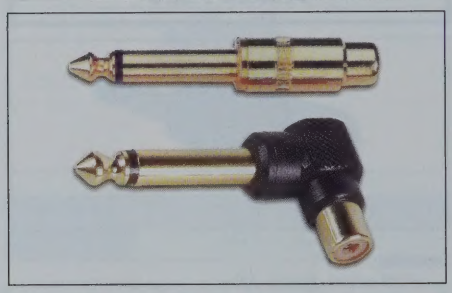
part name	type
CAA15	nickel plated

PHONO (RCA) JACK TO 1/4" PHONE MONO PLUG



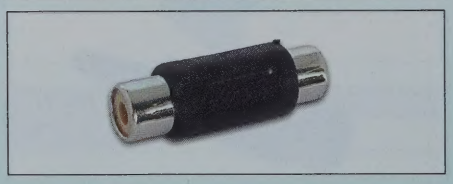
part name	type
CAA25	nickel plated

GOLD-PLATED PHONO (RCA) JACK TO 1/4" PHONE MONO PLUG



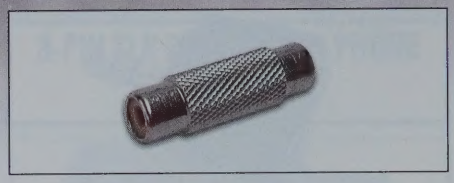
part name	type	remark
CAA26	gold plated	-

PHONO (RCA) JACK TO PHONO (RCA) JACK



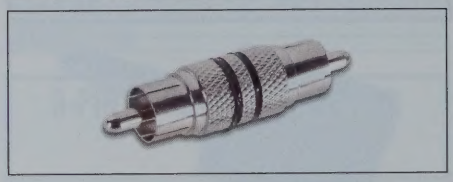
part name	type
CAA42	nickel plated

NICKEL-PLATED PHONO (RCA) JACK TO PHONO (RCA) JACK



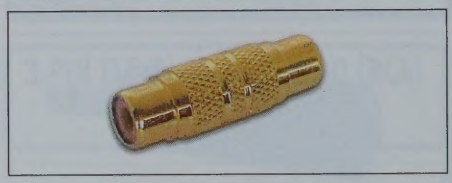
part name	type
CAA43	nickel plated

PHONO (RCA) PLUG TO PHONO (RCA) PLUG



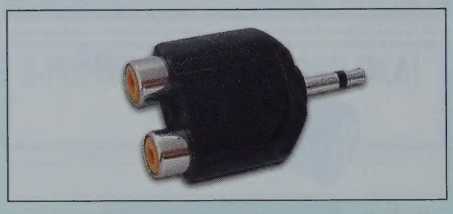
part name	color band	type
CAA40B	black	nickel plated
CAA40R	red	nickel plated

GOLD-PLATED PHONO (RCA) JACK TO PHONO (RCA) JACK



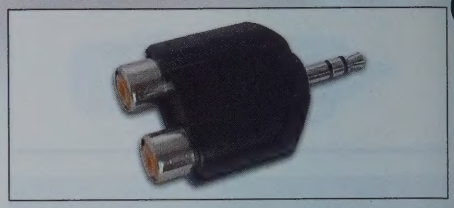
part name	type
CAA44	gold-plated

DUAL PHONO (RCA) JACKS TO 1/8" PHONE MONO PLUG



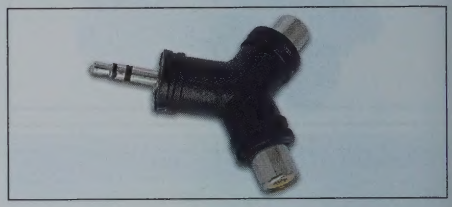
part name	type
CAA17	nickel plated

DUAL PHONO (RCA) JACKS TO 1/8" PHONE STEREO PLUG



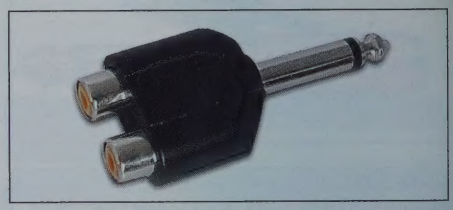
part name	type
CAA20	nickel plated

DUAL PHONO (RCA) JACKS TO 1/8" PHONE STEREO PLUG



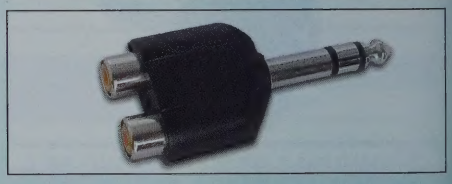
part name	type
CAA47	nickel plated

DUAL PHONO (RCA) JACKS TO 1/4" PHONE MONO PLUG



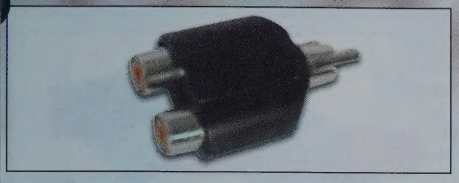
part name	type
CAA27	nickel plated

DUAL PHONO (RCA) JACKS TO 1/4" PHONE STEREO PLUG



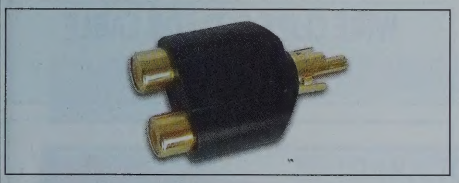
part name	type
CAA35	nickel plated

DUAL PHONO (RCA) JACKS TO PHONO (RCA) PLUG



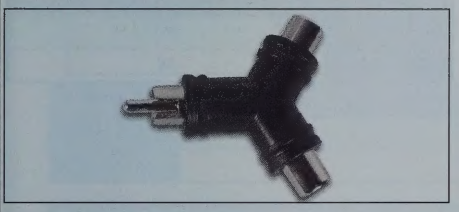
part name	type
CAA38	nickel plated

GOLD-PLATED DUAL PHONO (RCA) JACKS TO PHONO (RCA) PLUG



part name	type
CAA39	gold plated

GOLD-PLATED DUAL PHONO (RCA) JACKS TO PHONO (RCA) PLUG

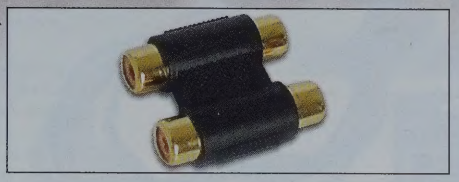


part name	type
CAA46	gold plated

DUAL PHONO (RCA) JACKS TO PHONO (RCA) JACK

part name	type
CAA41	nickel plated

GOLD-PLATED DUAL PHONO (RCA) JACKS TO DUAL PHONO (RCA) JACKS

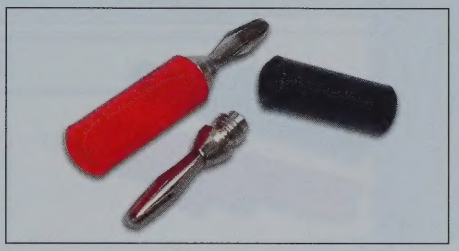


part name	type
CAA45	gold plated

ECONOMIC MEASURING ACCESSORIES

BANANA PLUGS

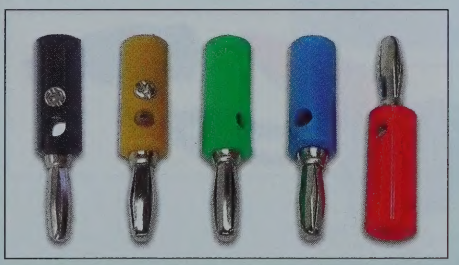
BANANA PLUG 0.16" WITH SOLDERING CONNECTION



Specifications :
- solder connections
- gold-plated
- length : 1.7"

part name	color
CM9B	black
CM9R	red

BANANA PLUG 0.16" WITH TRANSVERSE HOLE

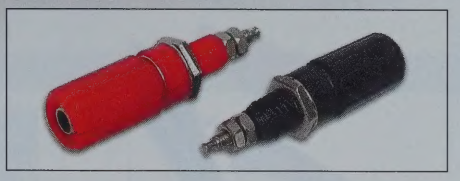


Specifications :
- length : 1.5"
- screw connection for cables with a max. Ø of 0.06" sqt

part name	color
CM2B	black
CM2BL	blue
CM2G	green
CM2R	red
CM2Y	yellow

BINDING POSTS

BINDING POSTS 0.16"



Specifications :
- length : 1.7"
- drill hole : 0.3"
- panel thickness : max. 0.28"

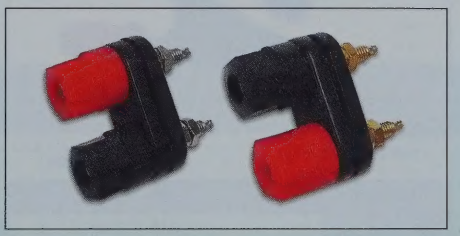
part name	color
CM3B	black
CM3R	red

BINDING POSTS 0.16" SOLDER

Specifications :
- length : 1.0"
- drill hole : Ø 0.35"
- panel thickness : max. 0.2"

part name	color
CM4B	black
CM4BL	blue
CM4G	green
CM4R	red
CM4Y	yellow

DUAL BINDING POSTS



Specifications :
- for 0.16" banana plugs
- dimensions : 1.5" x 1.3"
- distance between connectors : 0.79"
- drill hole : Ø 0.15" (x2)

part name	color
CM14R	red / black
CM15R	red / black

J

ALLIGATOR CLIPS

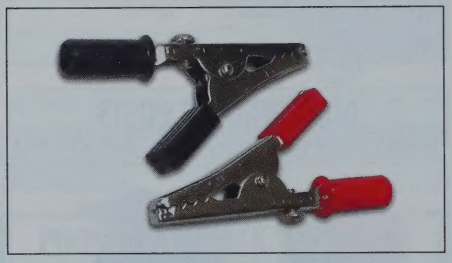
ALLIGATOR CLIPS WITH BOOT 1.1"

part name	color
CM5B	black
CM5R	red

ALLIGATOR CLIPS WITH BOOT 1.7"

part name	color
CM6B	black
CM6R	red

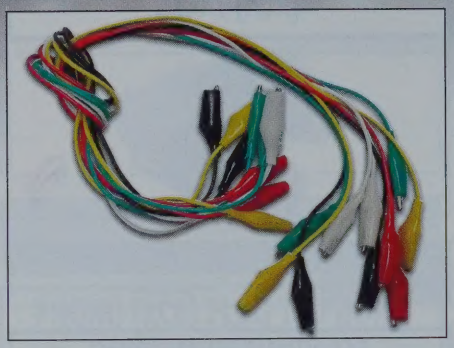
ALLIGATOR CLIPS NO BOOT WITH SCREW (2.2")



SPECIFICATIONS :
- screw connection for cables

part name	color
CM8B	black
CM8R	red

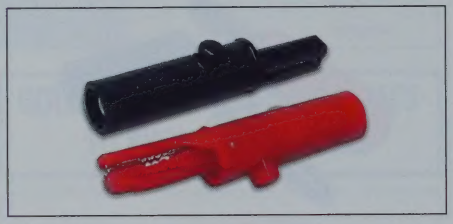
SETS WITH 10 WIRES WITH BOOTED CROCODILE CLIPS



SPECIFICATIONS :
- cable size : 10 x 0.0004" (outer Ø : 0.71")
- colors : 2 x black, 2 x red, 2 x white, 2 x green, 2 x yellow

part name	cable length	booted alligator clips
CM12	21.6"	1.3"

INSULATED ALLIGATOR CLIPS HARD COVER (2.1")



SPECIFICATIONS :
- for 0.16" banana plug
- length : 2.1"

part name	color
CM18B	black
CM18R	red

BATTERY CLIPS

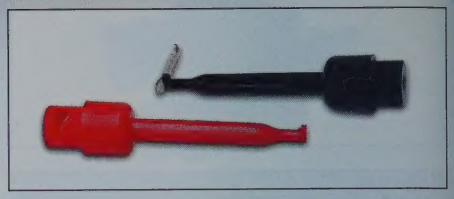
BATTERY CLIPS 10A

SPECIFICATIONS :
- solder connection
- length : 2.2"

part name	color
CM16B	black
CM16R	red

WIRE CLIPS

1.6" WIRE CLIPS



SPECIFICATIONS :
- solder connection
- length : 1.6"

part name	color
CM22B	black
CM22R	red

WIRE CLIPS 5.7" FOR CABLE CONNECTION

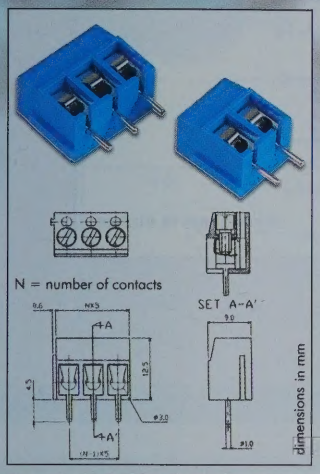
SPECIFICATIONS :
- suitable for cable and 4mm banana plug
- length : 5.7"

part name	color
CM23B	black
CM23R	red

J

TERMINAL BLOCKS

SCREW TERMINAL BLOCKS, PITCH = 0.2"



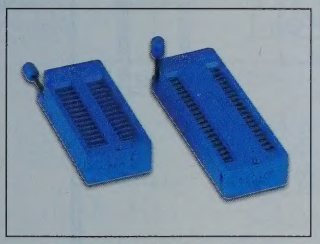
FEATURES :
- blocks are stackable

SPECIFICATIONS :
- body : glass-filled polyester (ULM94V0)
- contact : tin-plated brass (CuZn)
- wire protection : stainless steel
- pitch : 5mm
- mounting hole : Ø1.5mm
- current rating : max. 16A / way
- operating temperature : -33±C to +120±C
- soldering temperature : +260±C (max. 10 seconds)
- color : blue

part name	number of contacts
SCREW02	2

ZIF CONNECTORS

ZIF IC SOCKETS



FEATURES :
- universal : 7.62 / 15.24
- IC test sockets

SPECIFICATIONS :
- pitch : 0.1"

part name	number of contacts
28PZIF	28
40PZIF	40

SOLDERLESS TERMINALS AND CONNECTORS

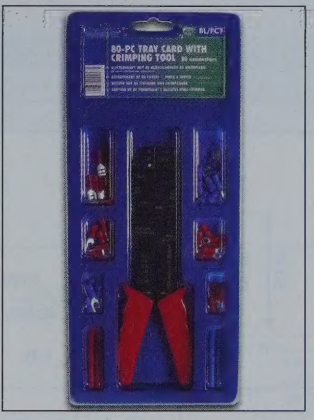
TRAY CARDS

SPECIFICATIONS :
- colours :
  - red : AWG 22-18 / 0.5-1.0mm²
  - blue : AWG 16-14 / 1.5-2.5mm²

ASSORTMENT OF 100 TERMINALS AND CONNECTORS — BL/F100

SPECIFICATIONS :
- 100pcs

CRIMPING TOOL SET — BL/FCT



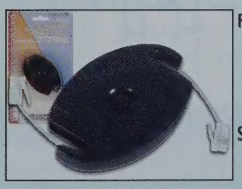
SPECIFICATIONS :
- includes : VTCT tool for crimping insulated terminals, has cutter stripper and 80 pieces assorted insulated terminals

TELEPHONE AND MODULAR PLUGS

TELEPHONE CONNECTORS AND EXTENSION CABLES

MODULAR

RETRACTABLE DATA/TELEPHONE EXTENSION CORD 9.8FT, 6P4C MALE TO 6P4C MALE — TCU363



FEATURES :
- retractable modular cord
- 2 x 6P4C male connectors
- compact and easy to carry
- automatic extend and retract

SPECIFICATIONS :
- length of spool : 9.8ft
- color : black

TELEPHONE RINGER / FLASHER — TELRI

Add an extra ringer to your phone.

FEATURES :
- 3 operation modes : flasher only / flasher + soft buzzer / flasher + hard buzzer
- easy installation, just plug it in
- no battery required
- wall mounting is possible
- only suitable for use with PSTN telephone lines

PUSH-BUTTON SWITCHES

PUSH-BUTTON SWITCHES

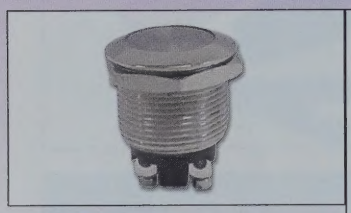
Specifications :
- dielectrical strength : 1500V AC
- contact resistance : 20mohm max.
- electrical life : 50000 min.
- insulation resistance : 100Mohm
- mechanical life : min. 100000 actuations

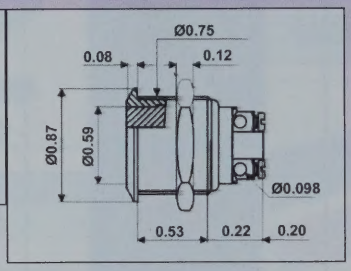
R1400-R1500 PUSH-BUTTON SWITCHES

Features :
- anti-vandal

Specifications :
- contacts : off-(on) silver
- material : brass nickel
- contact resistance : 35mohm max.
- insulation resistance : 500V DC 100Mohm min.
- dielectric strength : 1 min. 1000V AC
- electrical life : 50000 cycles
- drill Ø : 0.75"

part name	type	ratings
R1400A	OFF-(ON) SPST	48V / 2A max.





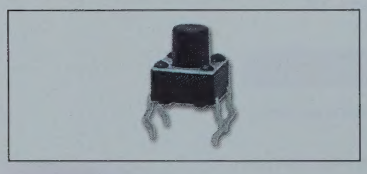
part name R1400A | part name R1400A

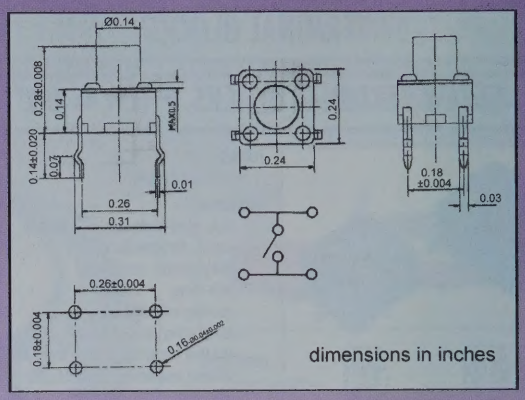
TACTILE SWITCHES

Features :
- applications :
  - for all types of electronic equipment such as telephones, audio instruments, TV sets, VCRs, ...
  - micro-miniature, lightweight
- snap-in type : suitable for direct PCB mounting

Specifications :
- rating : 12V DC - 50mA
- insulation resistance : > 100Mohm - 250V DC
- withstand voltage : 100V AC 1 minute
- contact resistance : < 100mohm
- soldering temperature : 255±C for max. 5 seconds
- mechanical life : 500000 cycles
- electrical life : 300000 cycles
- ambient temperature range : -13±F to 158±F
- ambient humidity range : < 85% RH
- operating force : 130 to 160 ″ 30gf

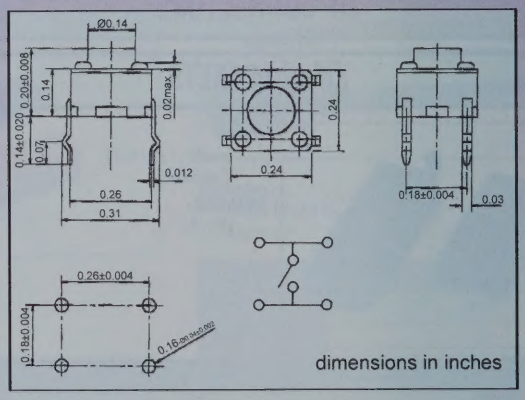
TACTILE SWITCH 0.24" x 0.24" HEIGHT : 0.28" ▸▸ KRS0610





Specifications :
- dimensions : 0.24" x 0.24"
- height : 0.28"

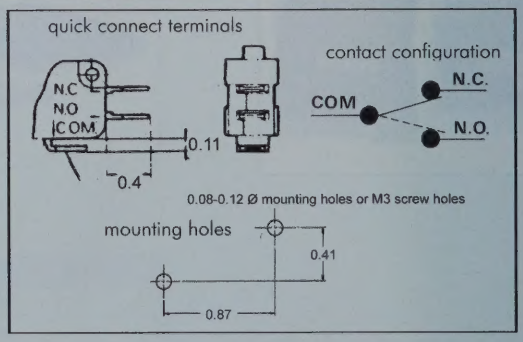
TACTILE SWITCH 0.24" x 0.24" HEIGHT : 0.20" ▸▸ KRS0612



Specifications :
- dimensions : 0.24" x 0.24"
- height : 0.20"

MICROSWITCHES

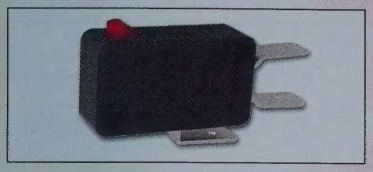
STANDARD 12A SERIES



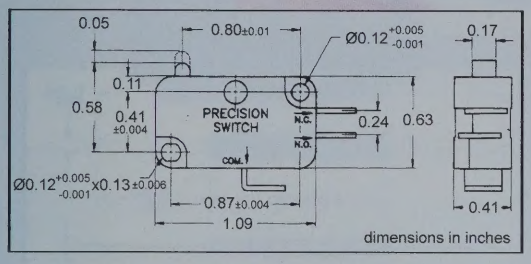
Specifications :
- contact resistance : initially max. 15mohm
- insulation resistance : min. 100Mohm (at 500V DC)
- dielectric strength : 1000V AC for 1 minute
- mechanical life : min. 1000000 operations
- electrical life : min. 100000 operations (full load)
- dimensions : 0.63" x 1.09" x 0.41"
- ratings : 12A / 125V AC, 6A / 250V AC

MICROSWITCH 12A, NO ACTUATOR

MS12

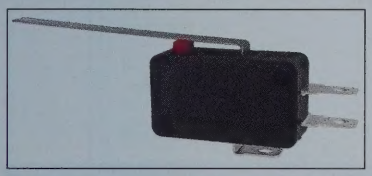


FEATURES :
- no actuator

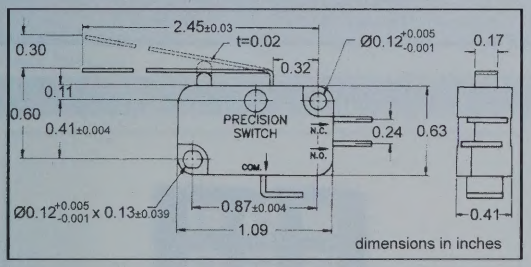


MICROSWITCH 12A, LONG LEVER

MS12-L

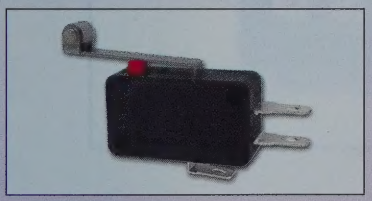


FEATURES :
- long lever

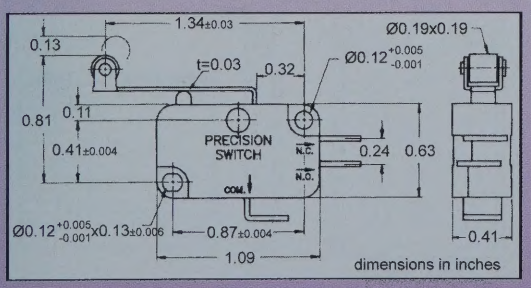


MICRO SWITCH 12A, LONG LEVER WITH ROLLER

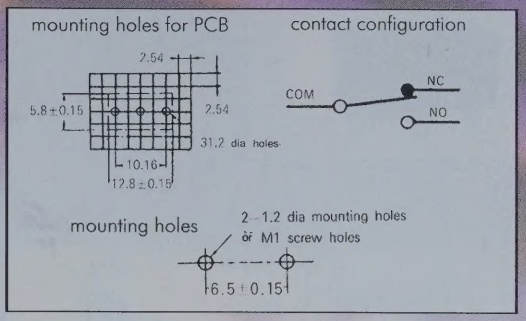
MS12-R



FEATURES :
- long lever with roller



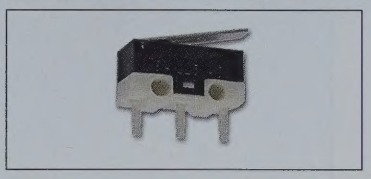
SUPERMINIATURE BASIC SWITCHES



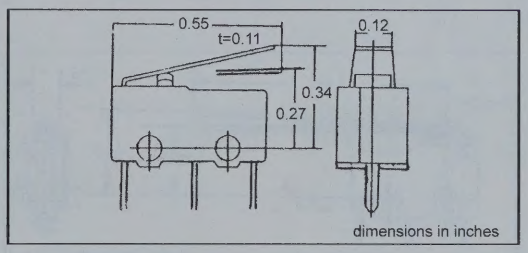
SPECIFICATIONS :
- contact resistance : initially max. 15mohm
- insulation resistance : 100Mohm min. (at 500V DC)
- dielectric strength : 1000V AC for 1 minute
- mechanical life : min. 1000000 operations
- electrical life : min. 100000 operations at full load
- dimensions : 0.26" x 0.50" x 0.23"

SUPERMINIATURE MICROSWITCH 3A

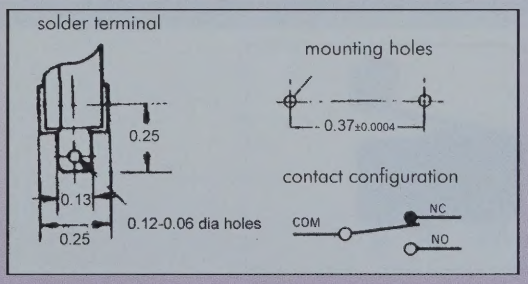
MS3-LPCB



FEATURES :
- with lever



MINIATURE BASIC SWITCHES, 5A

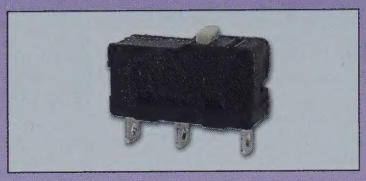


SPECIFICATIONS :
- contact resistance : initially max. 30mohm
- insulation resistance : min. 100Mohm at 500V DC
- dielectric strength : 1000V AC for 1 minute
- mechanical life : min. 1000000 operations
- electrical life : min. 200000 operations
- ratings : 5A / 125V DC, 3A / 250V AC
- dimensions : 0.40" x 0.78" x 0.25"

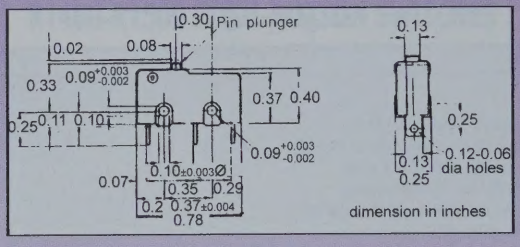
K

MICROSWITCH 5A, NO ACTUATOR

MS5

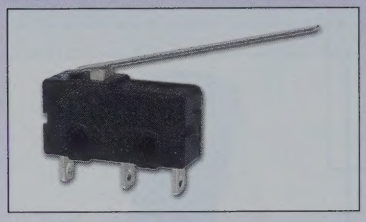


FEATURES :
- no actuator

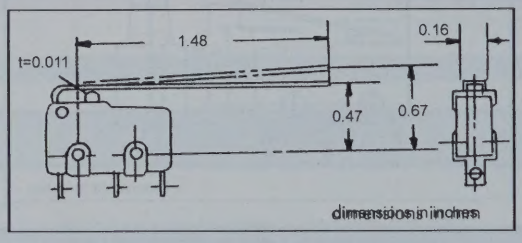


MICROSWITCH 5A, LONG LEVER

MS5-L

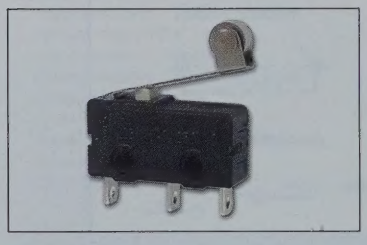


FEATURES :
- long lever

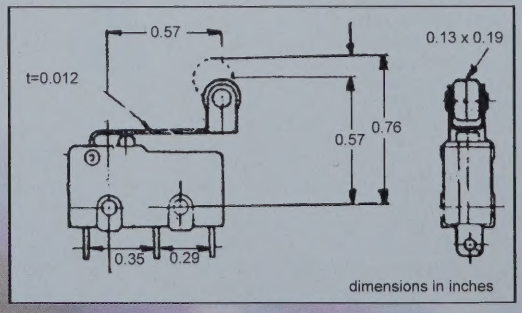


MICROSWITCH 5A, LEVER WITH LONG ROLLER

MS5-R



FEATURES :
- roller long

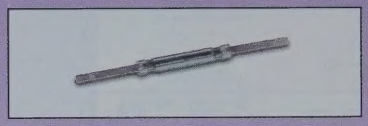


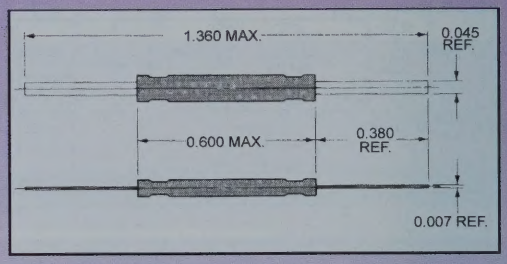
REED SWITCHES & MAGNETS

REED SWITCHES

REED SWITCH - 1 x N.O. CONTACT

REEDSW1





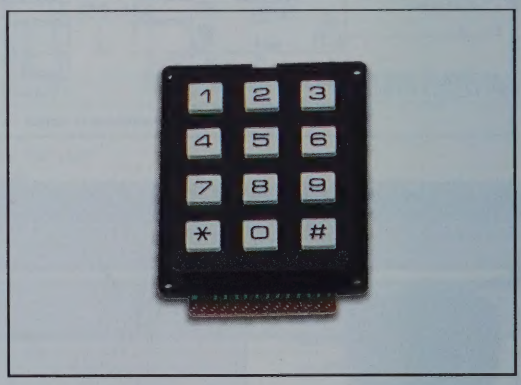
SPECIFICATIONS :
- switch : 1 x N.O.
- contact material : ruthenium
- max. switching voltage : 200V
- max. switching current : 0.5A
- max. continuous current : 1.5A
- contact resistance : 150mohm

KEYBOARDS

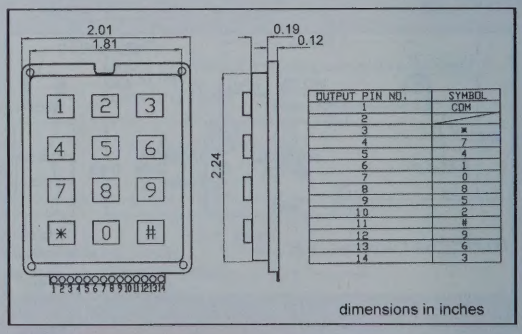
TELEPHONE KEYBOARDS

12 KEY KEYBOARD - COMMON OUTPUT - BLISTER-PACKED

12KEY



FEATURES :
- common output
- blister-packed

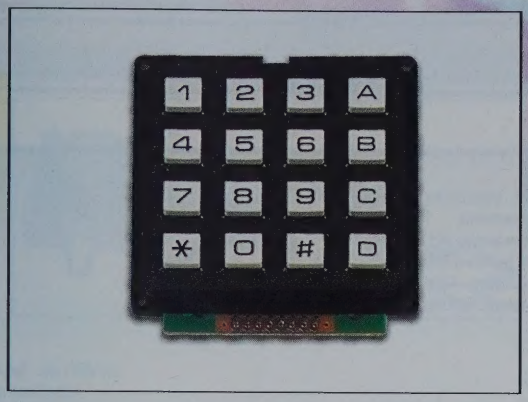


OUTPUT PIN NO.	SYMBOL
1	COM
2	
3	*
4	7
5	4
6	1
7	0
8	8
9	5
10	2
11	#
12	9
13	6
14	3

SPECIFICATIONS :
- contact rating : 24V DC / 20mA
- contact resistance : 200ohm max.

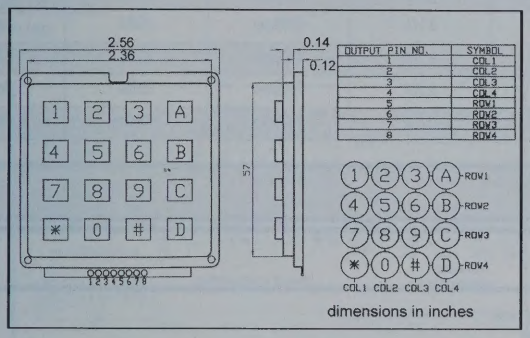
16 KEY KEYBOARD - MATRIX OUTPUT - BLISTER PACKED

16KEY



FEATURES :

- matrix
- blister packed



SPECIFICATIONS :

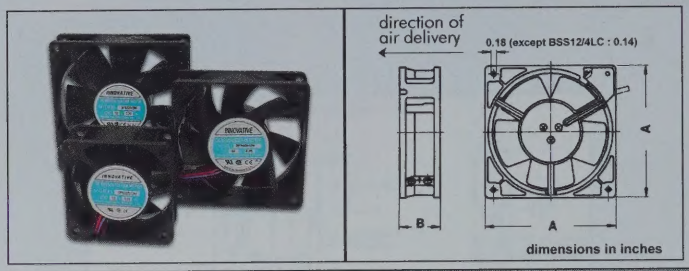
- contact rating : 24V DC / 20mA
- contact resistance : 200ohm max.

K

FANS

FANS DC

ECONOMICAL

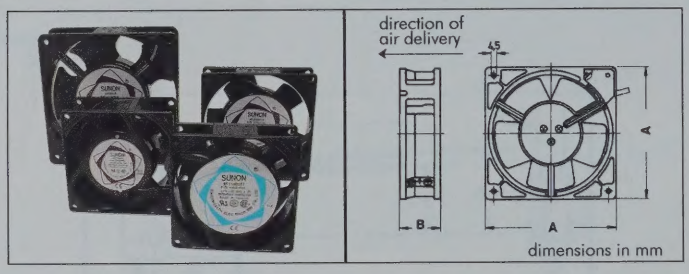


SPECIFICATIONS :
- construction : plastic housing and blades (to UL94V-0 rating)
- operating temperature :
  - sleeve bearing : 14±F to 149±F
  - ball bearing : -23±F to 167±F
- insulation resistance : 10Mohm min. at 500V DC
- dielectric strength : 5mA max. at 500V AC (one minute)

part name	type	size	bearing	rated voltage	air flow	current	speed	noise (at 1m)	connection
BSS12/4LC	SP401212M	1.6" x 1.6" x 0.5"	sleeve	12V DC	7.8yd³/hr	0.10A	5000rpm	27dBA	leads
BSS12/6LC	SP602512M	2.4" x 2.4" x 1.0"	sleeve	12V DC	21yd³/hr	0.11A	3200rpm	25dBA	leads
BSS12/8LC	SP802512M	3.1" x 3.1" x 1.0"	sleeve	12V DC	27m³/hr	0.16A	2800rpm	32dBA	leads
BSS12/92LC	SP922512M	3.6" x 3.6" x 1.0"	sleeve	12V DC	43yd³/hr	0.20A	2600rpm	35dBA	leads
BLS12LC	SP1202512M	4.7" x 4.7" x 1.0"	sleeve	12V DC	85yd³/hr	0.25A	2500rpm	46dBA	leads

FANS AC

SUNON



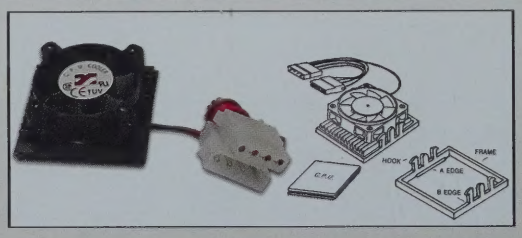
SPECIFICATIONS :
- materials :
  - blade : thermoplastic PBT (UL94-V0)
  - frame : die-cast ALU
- dielectric strength : 1500Vac for 2 seconds
- insulation resistance : 500Vdc, 100Mohm
- tolerance :
  - speed : ″ 5%
  - airflow : ″ 10%
- airflow : UL-recognised E77551, CSA-certified LR53000, VDE-approval 1350
- operating temperature :
  - sleeve bearing : -10±C to +70±C
  - ball bearing : -20±C to +80±C

part name	type	size (A x A x B)	bearing	voltage	air flow	current	speed	noise (at 1m)	connection
BSS115	SF11580AT1082HSL	3.1" x 3.1" x 1.0"	sleeve	115Vac (50-60Hz)	38-46yd³/hr	0.12-0.11A	2350-2800rpm	29-33dBA	leads
BSS220	SF23080AT2082HSL	3.1" x 3.1" x 1.0"	sleeve	220-240Vac (50-60Hz)	38-46yd³/hr	0.07-0.07A	2350-2800rpm	29-33dBA	leads

CPU COOLERS

486

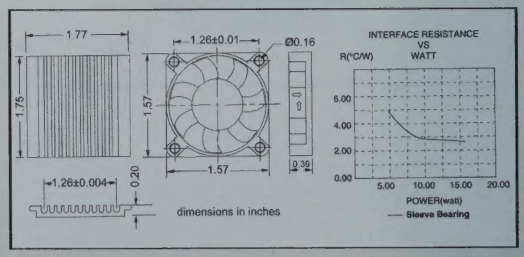
CPU COOLER FOR 486 ▸▸ BSSCPU



Designed for 486 CPUs or other ICs with the same outline.

FEATURES :
- high heat transfer rate
- DUC (Device Under Cooling) reduces room temperature
- DUC prolongs life of the CPU
- simple and fast installation
- no need to move DUC during installation

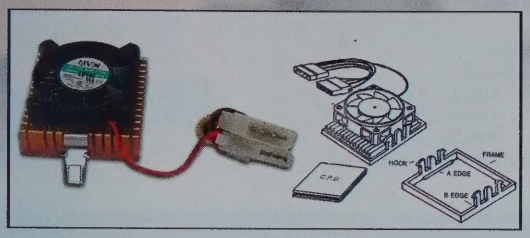
- uses standard PC connectors



SPECIFICATIONS :
- low acoustic noise : < 26dB
- low profile
- material meets UL94V-0
- dimensions : 1.9" x 1.8" x 0.7"
- weight : 1.94oz
- comes with a pair of connectors (MOLEX)
- power supply : 12V DC - 0.1A

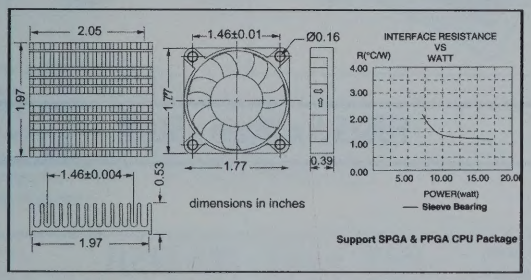
PENTIUM I

CPU COOLER FOR PENTIUM I CPU — BSSPEN



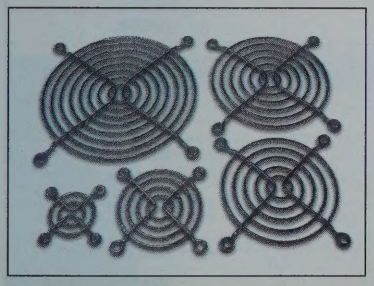
FEATURES :

- airflow speed : over 750ft/min.
- high heat transfer rate
- DUC (Device Under Cooling) reduces room temperature
- DUC prolongs life of the CPU
- simple and fast installation
- no need to move DUC during installation
- uses standard PC connectors
- low acoustic noise
- low profile



FAN ACCESSORIES

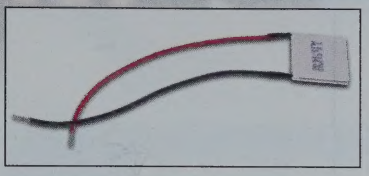
FINGER GUARDS FOR BLOWERS



part name	
G120	for blower 4.7" x 4.7"
G40	for blower 1.6" x 1.6"
G60	for blower 2.4" x 2.4"
G80	for blower 3.1" x 3.1"
G92	for blower 3.6" x 3.6"

PELTIER THERMOELECTRIC COOLING MODULES

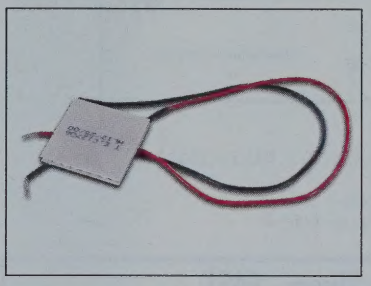
PELTIER THERMO-ELECTRIC COOLING MODULE 3A — PELTIER1



SPECIFICATIONS :

- Melcor type : CP1.0-127-06L
- I max. : 3A
- delta T max. : 149±F
- voltage : 15.4V
- Q max. : 25.7W
- number of couples : 127
- dimensions : 1.2" x 1.2" x 0.14"
- weight : 0.42oz

PELTIER THERMO-ELECTRIC COOLING MODULE 6A — PELTIER2



SPECIFICATIONS :

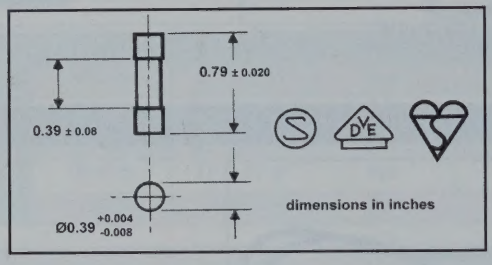
- I max. : 6.0A
- delta T max. : 152.6±F
- voltage : 15.4V
- Q max. : 51.4W
- number of couples : 127
- dimensions : 1.6" x 1.6" x 0.15"
- weight : 0.77oz

L

FUSES

FUSES 5 x 20mm

FEATURES :
- low breaking capacity



SPECIFICATIONS :
- construction : glass cartridge, silvered caps - specifications : IEC127, BS4265 and CEE4
- voltage rating : 250V AC - breaking capacity : 35A
- endurance : cycling test as specified by IEC127 and BS4265
- ambient temperature : 5±F to 95±F according to IEC/BS, up to 158±F

FUSES 5 x 20mm - FAST

FEATURES :
- "fast-acting"

SPECIFICATIONS :
- test specifications :
  - opening time : - 110% load : 4 hrs max. - 135% load : 1 hr max. - 200% load : 5 sec. max.
- packaging : 10 pcs/pack

part name	current	packaging
FF0.05N	50mA	10pcs/box
FF0.06N	60mA	10pcs/box
FF0.1N	100mA	10pcs/box
FF0.125N	125mA	10pcs/box
FF0.16N	160mA	10pcs/box
FF0.2N	200mA	10pcs/box
FF0.25N	250mA	10pcs/box
FF0.315N	315mA	10pcs/box
FF0.4N	400mA	10pcs/box
FF0.5N	500mA	10pcs/box
FF0.63N	630mA	10pcs/box
FF0.8N	800mA	10pcs/box
FF1N	1A	10pcs/box
FF1.25N	1.25A	10pcs/box
FF1.6N	1.6A	10pcs/box
FF2N	2A	10pcs/box
FF2.5N	2.5A	10pcs/box
FF3N	3.15A	10pcs/box
FF4N	4A	10pcs/box
FF5N	5A	10 pcs/box
FF6.3N	6.3A	10pcs/box
FF8N	8A	10pcs/box
FF10N	10A	10pcs/box
FF15N	15A	10pcs/box

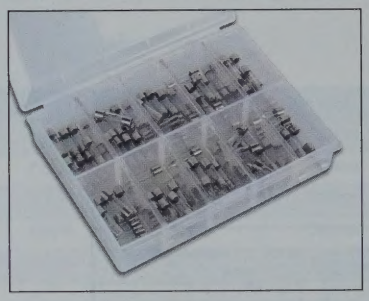
FUSE KIT

FEATURES :
- fast-acting
- 100 pieces :
  - 10 pieces of : 0.1A, 0.2A, 0.5A, 1A, 1.6A, 2A, 2.5A, 3A, 4A, 5A

SPECIFICATIONS :
- test specifications :
  - opening time :
    - 110% load : 4 hrs max.
    - 135% load : 1 hr max.
    - 200% load : 5 sec. max.
- packaging : plastic box with 10 compartments

FUSE SET 5 x 20mm FAST

▸▸ K/FF



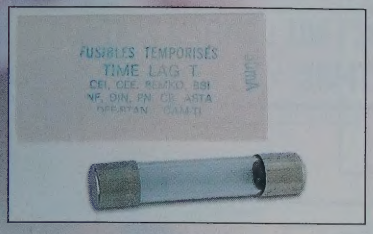
FUSES 5 x 20mm - SLOW

FEATURES :
- "time lag"

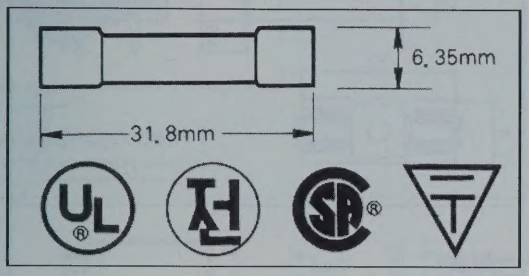
SPECIFICATIONS :
- test specifications :
  - opening time :
    - 110% load : 4 hrs max.
    - 135% load : 1 hr max.
    - 200% load : 5 sec. - 2 min.
- packaging : 10 pcs/pack

part name	current	packaging
FU20N	20A	10pcs/box
FU0.05N	50mA	10pcs/box
FU0.08N	80mA	10pcs/box
FU0.1N	100mA	10 pcs/box
FU0.125N	125mA	10 pcs/box
FU0.16N	160mA	10pcs/box
FU0.2N	200mA	10pcs/box
FU0.25N	250mA	10pcs/box
FU0.315N	315mA	10 pcs/box
FU0.4N	400mA	10pcs/box
FU0.5N	500mA	10pcs/box
FU0.63N	630mA	10pcs/box
FU0.8N	800mA	10pcs/box
FU1N	1A	10pcs/box
FU1.25N	1.25A	10pcs/box
FU1.5N	1.5A	10pcs/box
FU2N	2A	10pcs/box
FU2.5N	2.5A	10pcs/box
FU3.15N	3.15A	10 pcs/box
FU4N	4A	10 pcs/box
FU5N	5A	10 pcs/box
FU6.3N	6.3A	10 pcs/box
FU8N	8A	10pcs/box
FU10N	10A	10pcs/box
FU12N	12A	10pcs/box
FU15N	15A	10pcs/box

FUSES 6.35 x 32mm



FEATURES :
- glass tube, "no time lag"



SPECIFICATIONS :
- construction : glass cartridge, silvered caps
- specifications : IEC127, BS4265 and CEE4
- voltage rating : 250Vac
- breaking capacity : 35A
- endurance : cycling test as specified by IEC127 and BS4265
- ambient temperature : +15±C to +35±C according to IEC/BS, up to +70±C
- packaging : 10 pcs/pack

FUSES 6.35 x 32mm - FAST

FEATURES :
- "fast-acting"

SPECIFICATIONS :
- test specifications :
  - opening time :
    - 110% load : 4 hrs max.
    - 135% load : 1 hr max.
    - 200% load : 5 sec. max.

per 10

part name	current	packaging
6FF0.1N	100mA	10pcs/box
6FF0.16N	160mA	10pcs/box
6FF0.25N	250mA	10pcs/box
6FF0.315N	315mA	10pcs/box
6FF0.4N	400mA	10pcs/box
6FF0.5N	500mA	10pcs/box
6FF0.63N	630mA	10pcs/box
6FF0.8N	800mA	10pcs/box
6FF1N	1A	10pcs/box
6FF1.6N	1.6A	10pcs/box
6FF2N	2A	10pcs/box
6FF2.5N	2.5A	10pcs/box
6FF3.15N	3.15A	10pcs/box
6FF4N	4A	10pcs/box
6FF5N	5A	10pcs/box
6FF6.3N	6.3A	10pcs/box
6FF8N	8A	10pcs/box

FUSES 6.35 x 32mm - SLOW

FEATURES :
- "slow-blow"

SPECIFICATIONS :
- test specifications :
  - opening time :
    - 110% load : 4 hrs max.
    - 135% load : 1 hr max.
    - 200% load : 5 sec. - 2 min.

part name	current	packaging
6FU0.05N	50mA	10pcs/box
6FU0.1N	100mA	10pcs/box
6FU0.16N	160mA	10pcs/box
6FU0.25N	250mA	10pcs/box
6FU0.315N	315mA	10pcs/box
6FU0.4N	400mA	10pcs/box
6FU0.5N	500mA	10pcs/box
6FU0.63N	630mA	10pcs/box
6FU0.8N	800mA	10pcs/box
6FU1N	1A	10pcs/box
6FU1.6N	1.6A	10pcs/box
6FU2N	2A	10pcs/box
6FU2.5N	2.5A	10pcs/box
6FU3.15N	3.15A	10pcs/box
6FU4N	4A	10pcs/box
6FU5N	5A	10pcs/box
6FU6.3N	6.3A	10pcs/box
6FU8N	8A	10pcs/box
6FU12N	12A	10pcs/box

6.50 3.95 3.85 2.00

FUSE ACCESSORIES

PCB FUSE HOLDERS

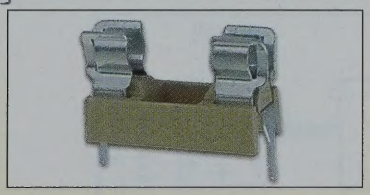
PCB FUSE HOLDERS 5x20mm

M

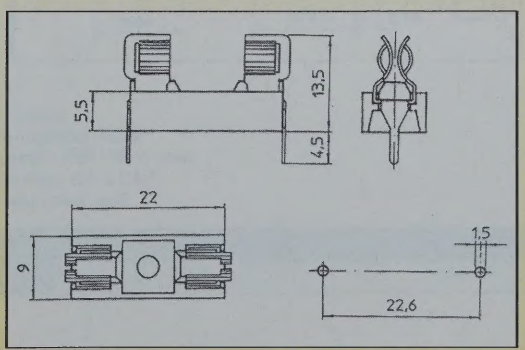
5x20mm PCB FUSE HOLDER

▸▸ FUSE/H

1.25



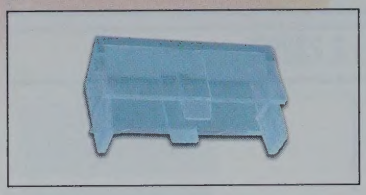
0.85



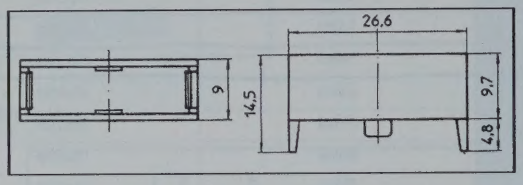
SPECIFICATIONS :
- base : heat-resistant plastic
- contacts : nickel-plated brass
- ratings : 250Vac / 6A
- for PCB mounting

FUSE HOLDER COVER ! FOR INDUSTRY !

FUSE/HC

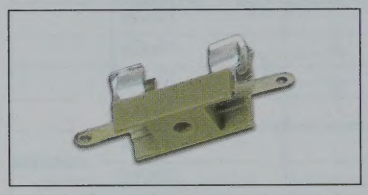


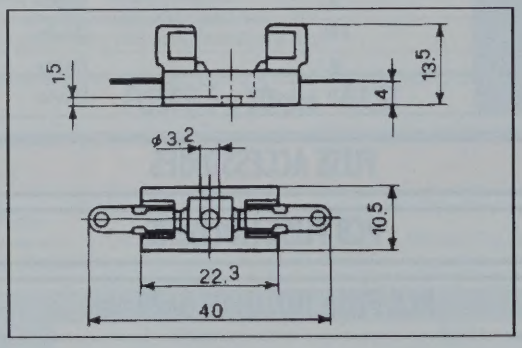
FEATURES :
- cap for : FUSE/H (see p.165)



5x20mm FUSE HOLDER (W/2 SIDE SOLDERING TAGS)

FUSE/HH

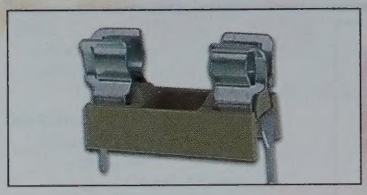


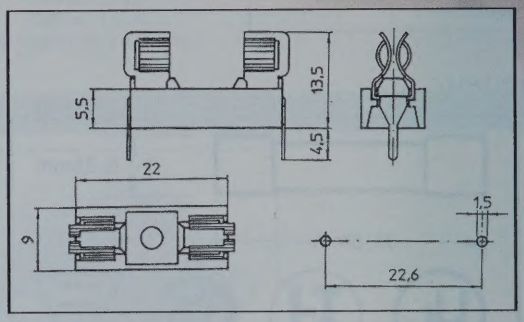


SPECIFICATIONS :
- 6A / 250Vac
- base : heat-resistant plastic
- contacts : nickel-plated brass
- 2 solder tags

5x20mmLOW-COST PCB FUSE HOLDER

FUSE/HL

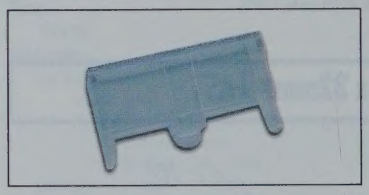




SPECIFICATIONS :
- base : heat-resistant plastic
- contacts : nickel-plated brass
- ratings : 250Vac / 6A
- solderlips

FUSE HOLDER COVER

FUSE/HCL



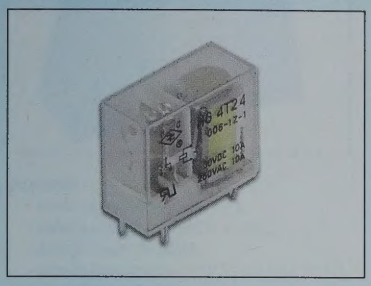
FEATURES :
- cap for : FUSE/HL (see p.166)

SPECIFICATIONS :
- material : phenolic laminate

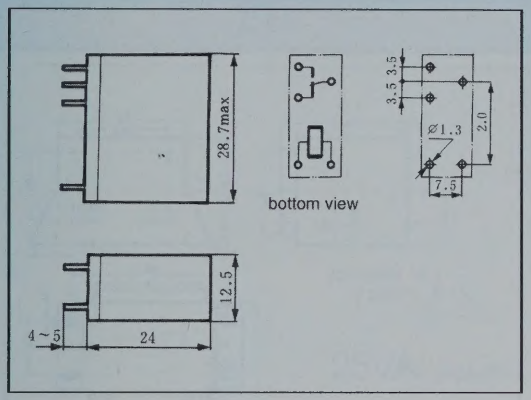
M

VERTICAL RELAYS

CONTACT RATING : 10A / 30Vdc-220Vac 1 x inverter (HG4T24)



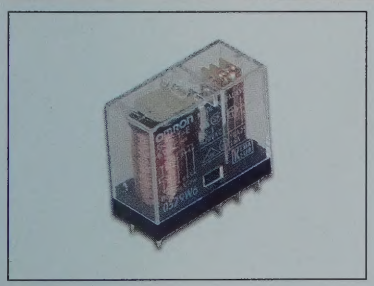
FEATURES :
- heavy-duty switching power up to 2200VA
- compact size allows mounting in a confined space



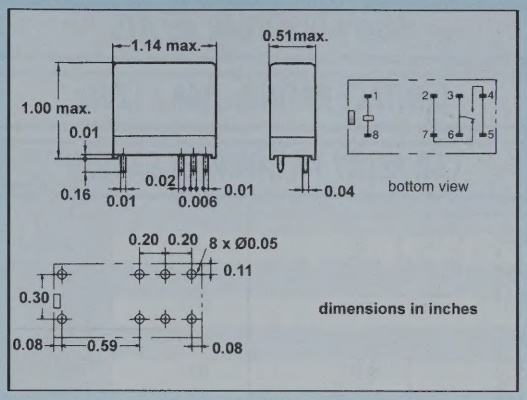
SPECIFICATIONS :
- contact : 1 x inverter
- nom. power consumption : 560mW
- dielectric strength : 1000VAC / 50Hz (1 minute)
- temperature range : -40±C to +70±C
- internal contact material : AgCo10

part name	coil voltage	coil resistance
VR10V121C	12Vdc	270 ohm

CONTACT RATING : 16A / 30V DC - 10A / 220V AC 1 x inverter (G2R1E)



FEATURES :
- suitable for switching power up to 4000VA
- compact size allows mounting in a confined space

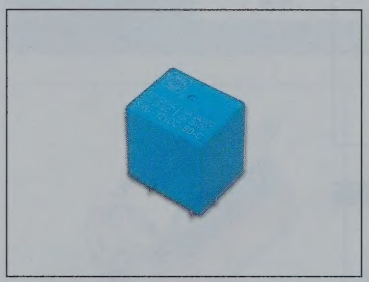


SPECIFICATIONS :
- contact : 1 x inverter
- nom. power consumption : 600mW
- dielectric strength : 5000V AC
- temperature range : -40±F to 131±F
- internal contact material : AgCdO

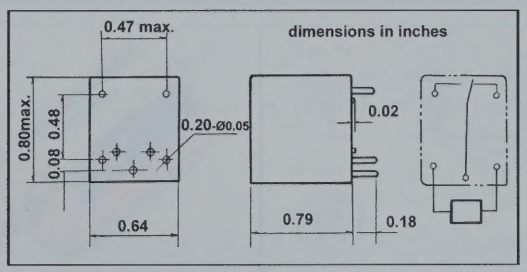
part name	coil voltage	coil resistance
VR16V241C	24V DC	1100ohm

MINIATURE POWER RELAYS

CONTACT RATING : 15A / 28V DC-125V AC 1 x inverter (JZC-22F)



FEATURES :
- compact and light design
- low coil power consumption
- used in home appliances, automatic systems, electronic equipment, instruments and meters



SPECIFICATIONS :
- contact : 1 x inverter
- nom. power consumption : 450mW
- dielectric strength : 1000V / 50Hz (1 minute)
- temperature range : -40±F to 158±F
- internal contact material : AgCdO

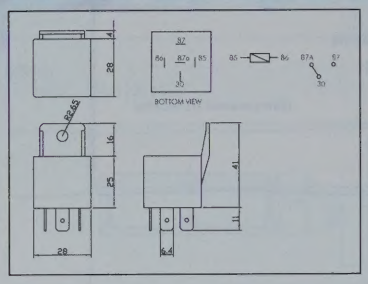
part name	coil voltage	coil resistance
VR15M121C	12V DC	360ohm

N

HEAVY-DUTY CAR RELAYS

CONTACT RATING : 30A / 12Vdc

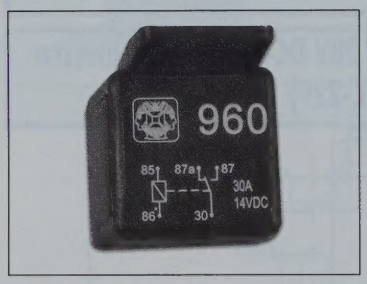
CAR RELAY 1 x INVERTER FASTON



SPECIFICATIONS :

- contact : 1 x inverter
- housing : ABS
- lips : 6.35mm FASTON

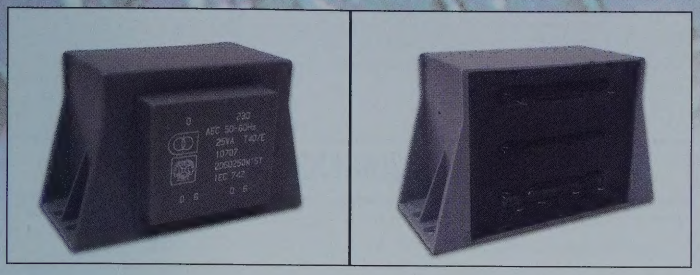
part name	rating	operating current	intern contact material
960	12V DC / 20-30A	" 140mA	-



part name 960

N

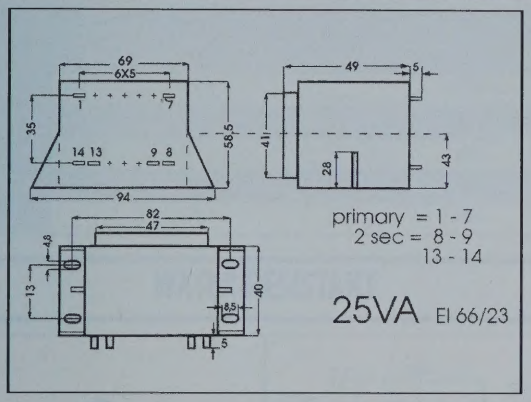
SIDE-TAG TRANSFORMERS



SPECIFICATIONS :

- transformer can be screwed onto a PCB
- operating temperature : -20±C to + 70±C
- dielectric strength : > 5000V
- meets the following norms : BS 3535, VDE 0551, IEC 742
- a thermal fuse can be fitted
- primary AC line : 230V - 50/60Hz (parallel and series connection)
- other VA's and sizes available on request : up to 250VA

25VA

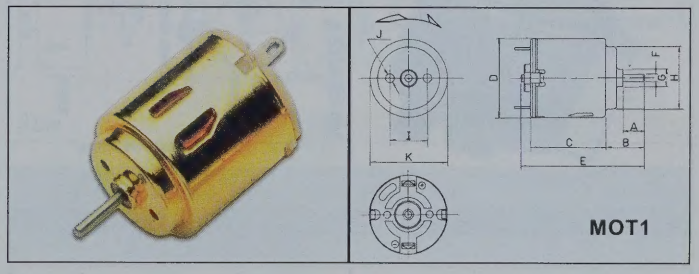


part name	voltage	current
2090250MST	2 x 9V	2 x 1.389A

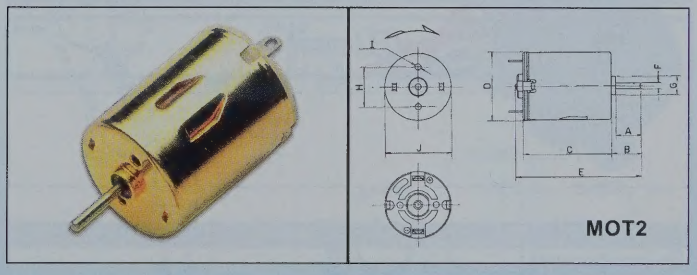
MOTORS

DC MOTORS

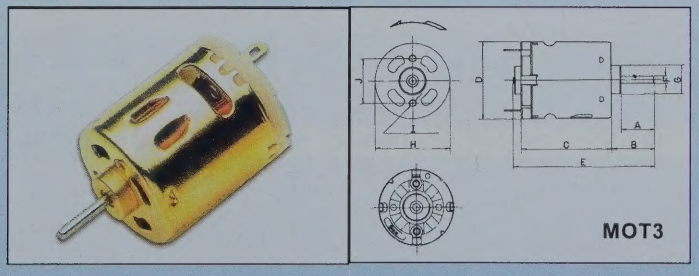
part name		MOT1	MOT2	MOT3
voltage	operating range	1.5-3V	2.4-6V	6-24V
	nominal	3V	6V	12V
no load	speed	12511rpm	13679rpm	11000rpm
	current	0.29A	0.28A	0.24A
at max. efficiency	speed	10012rpm	11404rpm	8768rpm
	current	1.16A	1.434A	0.726A
	torque	15.7gcm	45.3gcm	62.5gcm
	output	1.61W	5.312W	5.617W
	eff.	42.36%	61.74%	59.58%
stall torque		78.4gcm	277gcm	307.8gcm
dimensions	A	0.26"	0.39"	0.47"
	B	0.45"	0.45"	0.59"
	C	0.93"	1.20"	1.28"
	D	Ø0.94"	Ø0.94"	Ø1.09"
	E	1.50"	1.77"	2.01"
	F	Ø0.08"	Ø0.08"	Ø0.09"
	G	Ø0.24"	Ø0.25"	Ø0.39"
	H	Ø0.75	0.55"	Ø1.08"
	I	0.45"	Ø0.09"	M0.10" x 0.02"
	J	Ø0.09	Ø0.94"	0.63"
	K	Ø0.93		



part name	MOT1	part name	MOT1



part name	MOT2	part name	MOT2



part name	MOT3	part name	MOT3

STEPPER MOTORS

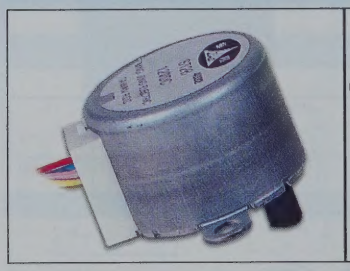
FEATURES :

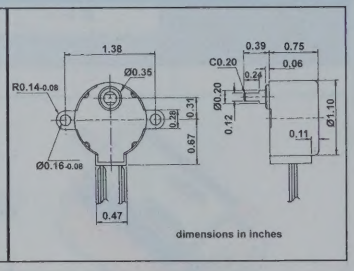
- applications :
  - office machines
  - automatic machines
  - split air conditioners

SPECIFICATIONS :

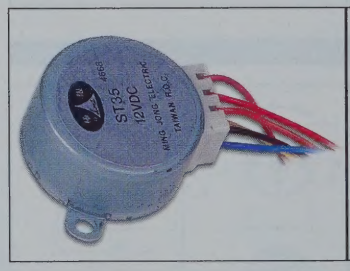
- colors
  - B1 : pink
  - A1 : orange
  - A2 : yellow
  - B2 : blue
  - GND : red
  - GND2 (for MOTS2) : brown

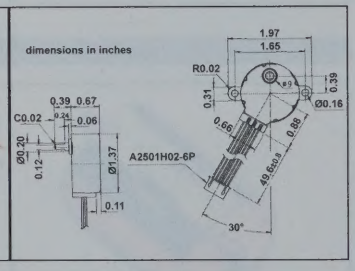
part name	MOTS1	MOTS2
rated voltage	12V DC	12V DC
current	32mA	60mA
impedance	300ohm	200ohm
phase	4	4
step angle / step	5.625± / 64	7.5± / 85
reduction ratio	1/64	1/85
detent torque	310gfcm	350gfcm
pull-in torque	360gfcm	600gfcm
max. starting pulse rate	700pps	500pps
max. slewing pulse rate	1400pps	800pps
temperature range	77±F	113±F
noise	23dB	25dB





part name MOTS1 part name MOTS1





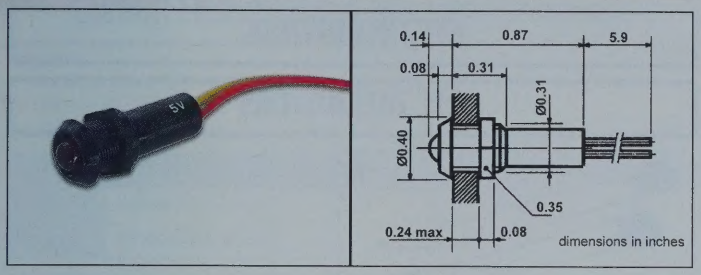
part name MOTS2 part name MOTS2

PANEL CONTROL LAMPS

LED LAMPS WITH INTEGRATED RESISTOR

FEATURES :
- lead connections - nut mounting

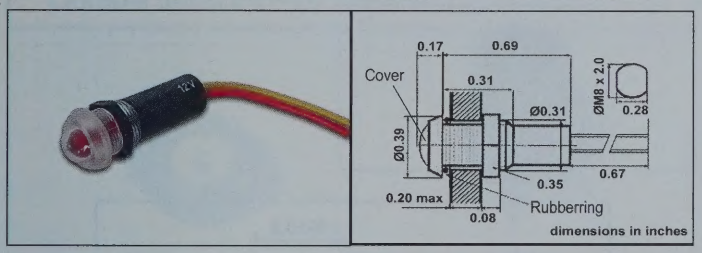
BLACK HOUSING



SPECIFICATIONS :
- housing : ABS black

part name	voltage	color
12VBFG	12V	green flashing
12VBFR	12V	red flashing
12VBFY	12V	yellow flashing
12VBG	12V	green
12VBR	12V	red
12VBY	12V	yellow

WATER-RESISTANT



FEATURES :
- water-resistant

part name	voltage	color	housing
12VTFR	12V	red flashing	black

LEDS

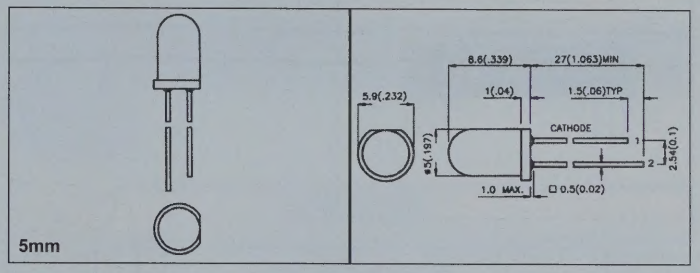
LED SET

SET OF 80 ASSORTED LEDs ▸▸ K/LED1

FEATURES :
- quantity : 80 pieces
- contents :
  - 15 x : 3mm green, 4.0mcd
  - 20 x : 3mm red, 1.0mcd
  - 15 x : 5mm green, 6.0mcd
  - 20 x : 5mm red, 2.0mcd
  - 10 x : 5mm yellow, 3.9mcd

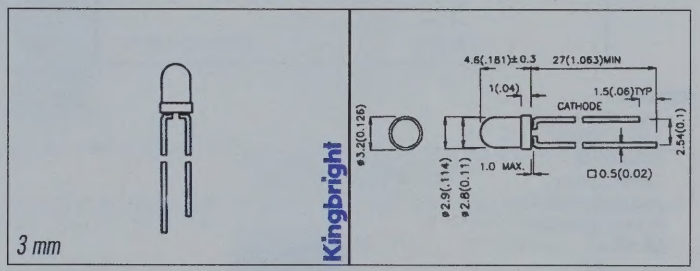
LOW-COST LEDS

LOW-COST LEDS 5mm



part name	case	emitting colour + material	wave length	case colour	luminous intensity	viewing angle
L-5WCK/3	5mm	super white GaN/SiC	465-475nm	water-clear	7000mcd (If = 20mA)	15±

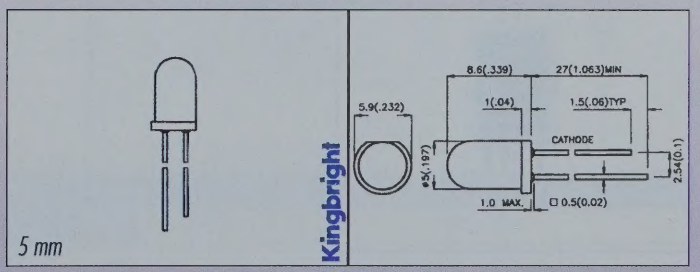
BLUE LED LAMPS



part name	case	emitting colour + material	wave length	case colour	luminous intensity (If = 20mA)	viewing angle
L-934MBC	3mm	GaN	430nm	water-clear	20 - 90mcd	20±

SUPER BRIGHT LED LAMPS

5mm LEDs



part name	case	emitting color + material	wave length	case-color	luminous intensity (If = 20mA)	viewing angle
L-53SRC-E	5mm	GaAlAs	660nm	water-clear	2000 - 3500mcd	30±
L-53SRD-E	5mm	GaAlAs	660nm	red diffused	90 - 110mcd	60±

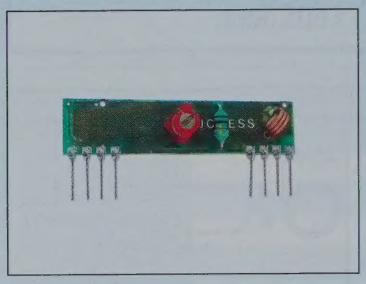
P

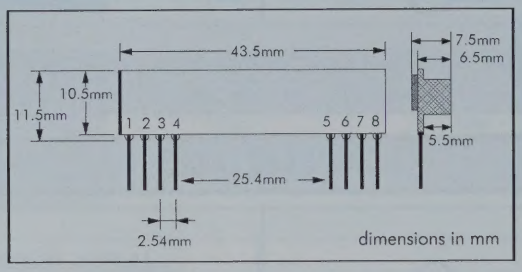
TRANSMITTER - RECEIVER MODULES

Compact transmitter and receiver modules with SMD components.

FEATURES :
- no adjustments required
- stable output
- suitable for remote controls, telemetry, ...

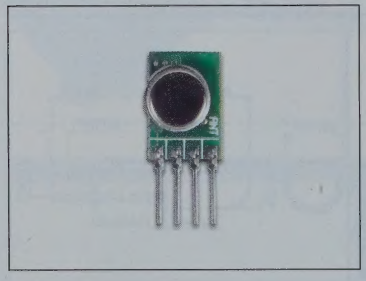
RECEIVER MODULE (900-6895) ▸▸ RX433

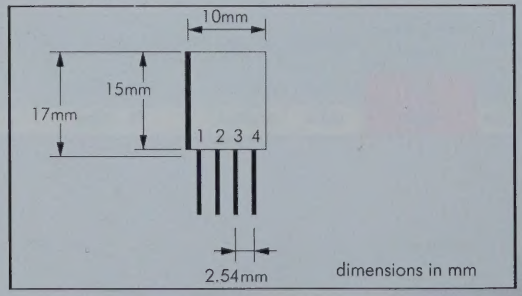




SPECIFICATIONS :
- range : 220yd in open air
- frequency : 433MHz
- modulation : AM
- sensitivity : 3μVrms
- power supply : 4.5-5.5V DC
- digital and linear output
- pin numbers :
  - 1 : gnd
  - 2 : digital output
  - 3 : linear output
  - 4 : Vcc
  - 5 : Vcc
  - 6 : gnd
  - 7 : gnd
  - 8 : antenna (30-35cm)

TRANSMITTER MODULE (900-6896) ▸▸ TX433N

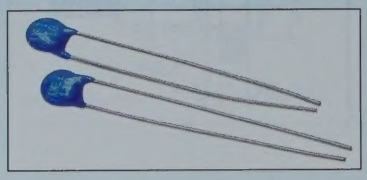




SPECIFICATIONS :
- frequency : 433MHz
- modulation : ASK
- circuit shape : SAW
- date rate : 100kbps
- peak output power : 10mW
- power supply : 3 ~ 12V DC
- pin numbers :
  - 1 : GND
  - 2 : data in
  - 3 : Vcc
  - 4 : ANT

NTC THERMISTORS

NTC THERMISTORS



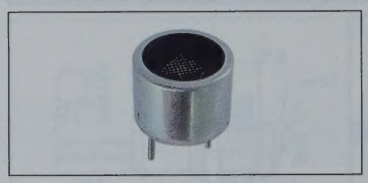
For temperature compensation, temperature measurement and control.

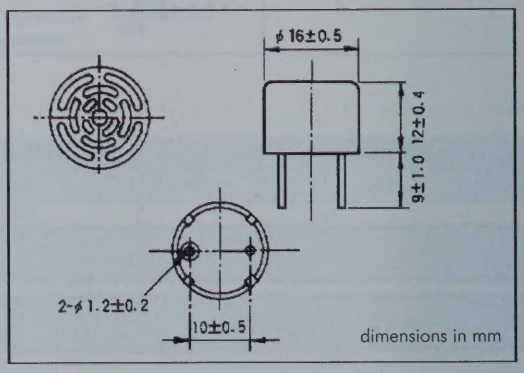
FEATURES :
- material : epoxy-coated

SPECIFICATIONS :
- dimensions : Ø5mm

part name	nom. resistance	B-constant (±7%)	max. permissible current	thermal dissipation constant	thermal time constant
NTC50K0	50 kohm	4400±K	200mA	6mW/±C	18sec.

ULTRASONIC SENSOR TRANSDUCERS





SPECIFICATIONS :
- max. input voltage : 20Vrms
- operating temperature : -4±F to +185±F
- range : 0.6 to 20ft
- nominal frequency : 40kHz
- sensitivity : -67dB min.
- sound pressure : 112dB min.

part name	description
MA40A5R	ultrasonic sensor transducer - receiver
MA40A5S	ultrasonic transducer - transmitter

RESISTIVE COMPONENTS

CARBON FILM RESISTORS

High-quality carbon film resistors with a connecting wire that is easily soldered.

FEATURES :

- applications : TV's, audio and video equipment, telephone receivers and communication systems, instrumentation, home appliances, ...

CARBON FILM RESISTOR SET 1/4W (RA-SERIES)

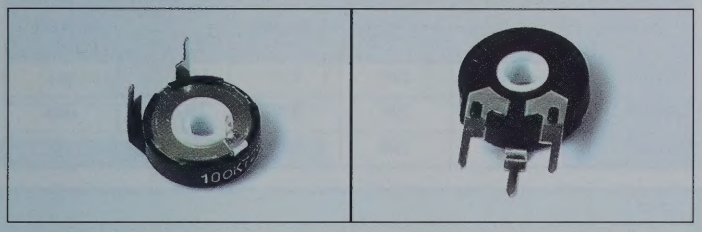
SPECIFICATIONS :

- operating temperature range : -67±F to 311±F
- tolerance : 5%
- max. operating voltage : 250V

part name	quantity	serie	number of values	power rating
K/RES-E12	610 pieces (10 pcs per value)	E12	61 (from 10E to 1M)	1/4W
K/RES-E3	480 pieces (30 pcs per value)	E3	16 (from 10E to 1M)	1/4W

part name **K/RES-E12** part name **K/RES-E3**

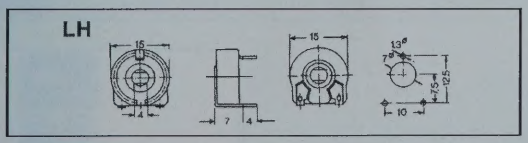
CARBON SINGLE-TURN TRIMMERS (L-SERIES PT15)

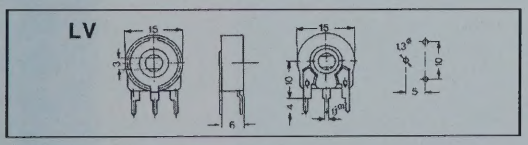


ORDER INFORMATION

for example : E10LV

E	100	LV
K	to	LH
M	010	

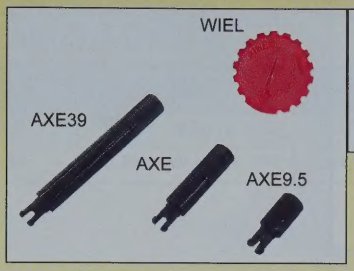


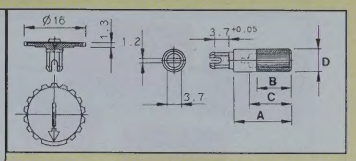


SPECIFICATIONS :

- power : 0.25W nom. at 40±C
- temperature range : -25±C to +70±C
- tolerance : - R = 100E ... 1M : "20% - R = 1E ... 5M : "30% - R = 5E ... 10M : +50% / -30%
- operating voltage : 250Vdc
- rotation angle :
  - mechanical : 265± " 5±
  - electrical : 250± " 20±
- standard lifecycle : 500 cycles

SPINDLES FOR L-SERIES SINGLE-TURN TRIMMERS





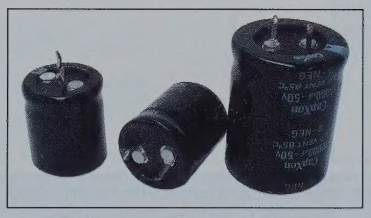
part name	PIHER type	colour	dimensions			
			A	B	C	D
AXE	5214	black	19mm	19mm	15mm	6.0mm
WIEL	5371	red	Ø 10mm	-	-	-

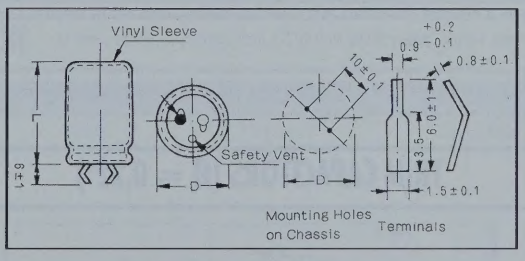
CAPACITORS

CAPACITOR SETS

part name	quantity	number of values	contents	<xx>21 x	<xx>14 x	<xx>7 x
K/CAP1	224 pieces	14 (from 10pF to 220nF)	10pF, 100pF, 1nF, 10nF, 100nF	22pF, 47pF, 220pF, 470pF, 2.2nF, 4.7nF, 22nF, 47nF	220nF	
K/CAP2	120 pieces	10 (from 1µF to 1000µF)	1µF/50V, 2.2µF/50V, 4.7µF/50V, 10µF/50V, 22µF/50V, 47µF/25V, 100µF/25V	220µF/25V, 470µF/25V, 1000µF/25V		

ELCOS - SNAP-IN

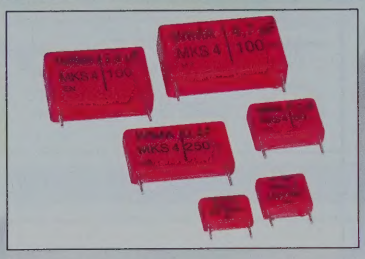




part name	capacitance	voltage	dimensions (D x L)	remark
10000LPOJ	10000µF	50V	30(Ø) x 35mm	-

R

WIMA CAPACITORS



WIMA capacitors have reliable internal end terminations. They use a simple concept : the wire makes electrical contact with the complete surface of the electrode, which ensures minimal inductance. This results in capacitors with a good attenuation and self-resonance (see technical data and graphs).

WIMA MKS4

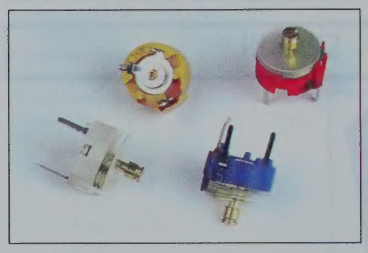
Capacitors that meet strict requirements PCM 7.5 - 37.5mm. Metallised polyester film.

SPECIFICATIONS :

- dielectric material : polyethylene terephthalate film
- capacitor electrodes : vacuum-deposited aluminium
- encapsulation : flame-retardant plastic case, UL 94 V-0, with epoxy resin seal / colour : red / marking : black
- test specifications : in accordance with CECC30400 and IEC 384-2
- testing category : 55/100/21 in accordance with IEC
- test voltage : 1.6 Ur, 2 sec.
- temperature range : -55±C to + 100±C
- capacitance tolerances : ″ 20% (″ 10%)

part name	pitch	operating voltage (max.)	capacitance
15MPS220	15mm	630V	0.22µF

TRIM CAPACITORS

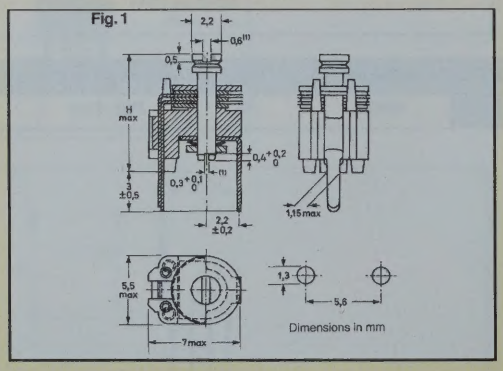


The vanes are stacked on a sturdy plastic base. The dielectric product consists of a polypropylene film which ensures good vane stability and prevents microphony. The capacitor can be adjusted at the top with a screwdriver. Flux absorption between the vanes is eliminated. The trimmers resist all standard cleaning solvents with the exception of trichlorethylene and trichloroethane. Climatic category (IEC68 40/070/21). Basic specification (IEC481-1 and 4).

FEATURES :

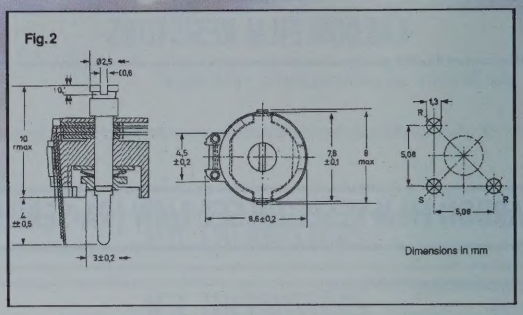
- These dielectric film trimmers are used on PCB's, e.g. in radios. They are also suitable for industrial equipment thanks to their good stability.

TRIM CAPACITORS (Ø = 0.22")



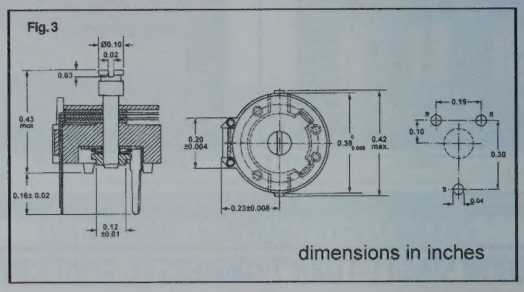
part name	capacitance	rated voltage	diameter	permanent temperature	color code
TRIM10/5	2-10pF	150V	0.20"	158±F max.	yellow

TRIM CAPACITORS (Ø = 0.31")



part name	capacitance	rated voltage	diameter	permanent temperature	color code
TRIM10P	2-10pF	250V	0.30"	158±F max.	yellow
TRIM22P	4-20pF	250V	0.30"	158±F max.	green
TRIM30P	3.3-33pF	250V	0.30"	158±F max.	brown

TRIM CAPACITORS (Ø = 0.42")



part name	capacitance	rated voltage	diameter	permanent temperature	color code
TRIM39P	5.5-40pF	250V	0.39"	158±F max.	gray
TRIM65P	5.5-65pF	250V	0.39"	158±F max.	yellow
TRIM80P	5.5-80pF	250V	0.39"	185±F max.	red

R

ALKALINE

CAMELION - SUPER ALKALINE (RED SERIES)

part name	nom. voltage	typ. capacity	IEC	format	others	dimensions	package
LR03C	1.5V	1100mAh	LR03	AAA	AM4, Micro, MN2400, E92, 4003	Ø11.0 x 44.5mm	4 batt. in blister
LR6C	1.5V	2600mAh	LR6	AA	AM3, Mignon, MN1500, E91, 4006	Ø14.1 x 50.2mm	4 batt. in blister

part name LR03C | part name LR6C

BUTTON CELLS & BUTTON CELL BATTERIES

CAMELION - ELECTRONIC BATTERIES

part name	nom. voltage	typ. capacity	IEC	format	others	dimensions	package
GP23GAC	12V	33mAh	-	GP23A	MN21, E23A, LRV08, 8LR932, 4223, V23A	Ø0.39" x 1.12"	5 batt. in blister

part name GP23GAC

LITHIUM

BUTTON CELLS - CAMELION

part name	nom. voltage	typ. capacity	IEC	format	others	dimensions	package
CR2032C	3.0V	230mAh	CR2032	-	5004LC	0.8" x 0.13"	5 batt. in blister

part name CR2032C

LOW-COST LITHIUM BUTTON CELLS

part name		packing
CR927	spare battery for LFB series	bulk

S

BATTERY CHARGERS

BATTERY CHARGERS FOR NICD & NIMH BATTERIES (4 AA BATTERIES INCL.)

Ni-Cd & Ni-MH BATTERY CHARGER FOR AA AND AAA BATTERIES ▸▸ VL2000HU

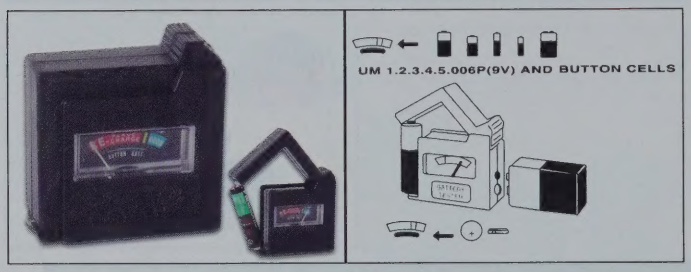
For digital cameras, PDA's, toys and other electronic devices. 2000mA.

FEATURES :
- delta-V detection prevents overcharging
- refresh function : allows partial recovery of the capacity of low-energy Ni-Cd batteries
- can charge 2 or 4 AA and AAA NiCd/ NiMH cells
- function switch with 3 positions : loading 2 batteries / refresh / loading 4 batteries
- red/yellow/green LED indication for charge and discharge function and yellow LED for refresh function
- with cigarette lighter plug for use in car, boat and caravan
- comes with power adapter (110V / 12V 500mA)

SPECIFICATIONS :
- ratings charger/discharger :
  - primary voltage input for charger : 12V-13.8V DC
- secondary voltage/current over 2 or 4 batteries :
  - AA size : 2.8-3V / 5.6-6V at max. 800mA constant current
  - AAA size : 2.8-3V / 5.6-6V at max. 300mA constant current
- max. power dissipation : 4.48VA

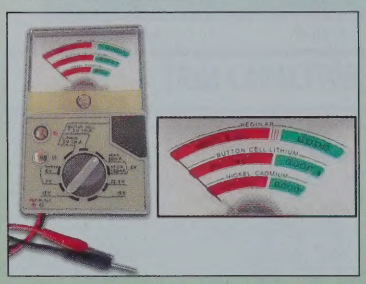
BATTERY TESTERS

VELLEMAN POCKET BATTERY TESTER ▸▸ BATTEST



FEATURES :
- for AAA (LR3), AA (LR6), C (LR14), D (LR20), E-block (9V) and button cell batteries / blister packed

BATTERY TESTER ▸▸ VTTEST7



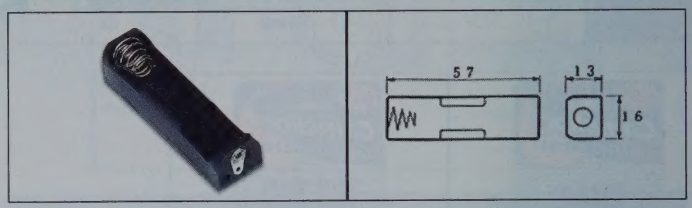
FEATURES :
- for batteries :
  - button cells : 1.5V/1mA
  - AA and N : 1.5V/50mA
  - C and D : 1.5V/150mA
  - lithium cells : 3V/1mA, 6V / 10mA, 9V/10mA, 12V/10mA, 15V/10mA, 22.5V/10mA

SPECIFICATIONS :
- dimensions : 3.9" x 2.5" x 1.3"
- weight : 3.0oz

BATTERY HOLDERS, SNAPS AND PARTS

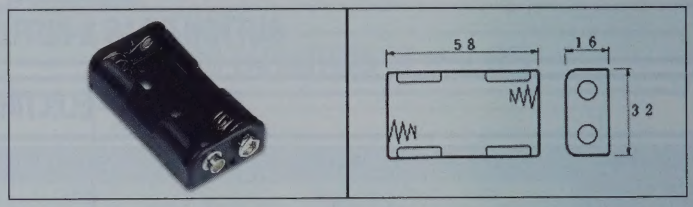
BATTERY HOLDERS FOR AA-SIZE BATTERIES (LR6)

BATTERY HOLDER FOR 1 x AA-CELL (WITH SOLDER TAGS) ▸▸ BH311D



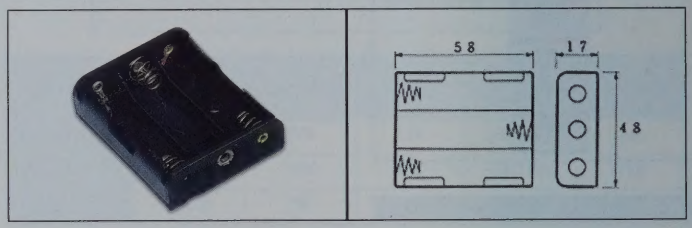
SPECIFICATIONS :
- with solder tags

BATTERY HOLDER FOR 2 x AA-CELL (WITH SNAP TERMINALS) ▸▸ BH321B



SPECIFICATIONS :
- with snap terminals

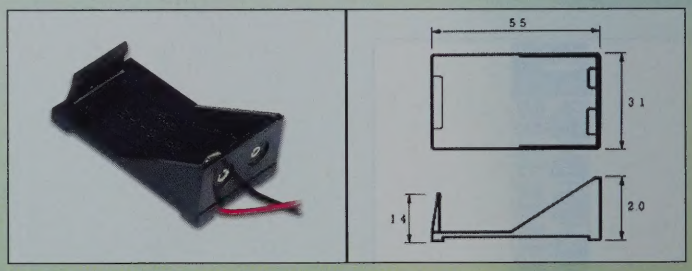
BATTERY HOLDER FOR 3 x AA CELLS (WITH LEADS) ▸▸ BH331A



SPECIFICATIONS :
- with leads (150mm)

BATTERY HOLDERS FOR E-BLOCK BATTERIES (6LR61)

BATTERY HOLDER FOR 1 x 9V CELL (WITH LEADS) ▸▸ BH9V



SPECIFICATIONS :
- with leads

ACCESSORIES

SCREW KITS

BOLT SET 330 PCS (PHILIPS SCREWS, NUTS & WASHERS) K/SC1

SPECIFICATIONS :

- material : zinc-plated steel
- screws :
  - M2x12mm : 20pcs
  - M2x19mm : 20pcs
  - M3x12mm : 20pcs
  - M3x19mm : 20pcs
  - M4x12mm : 20pcs
  - M4x25mm : 10pcs
- full nuts :
  - M2 : 40pcs
  - M3 : 40pcs
  - M4 : 30pcs
- washers :
  - M2 : 40pcs
  - M3 : 40pcs
  - M4 : 30pcs

BOLT SET 180PCS (PHILIPS SCREWS & NUTS) K/SC2

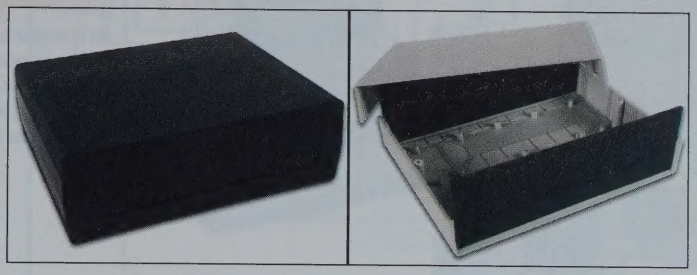
SPECIFICATIONS :

- material : zinc-plated steel
- screws :
  - M2.5x12mm : 20pcs
  - M2.5x19mm : 20pcs
  - M3x12mm : 20pcs
  - M3x19mm : 20pcs
  - M3x25mm : 10pcs
- full nuts :
  - M2.5 : 40pcs
  - M3 : 50pcs

PLASTIC ENCLOSURES

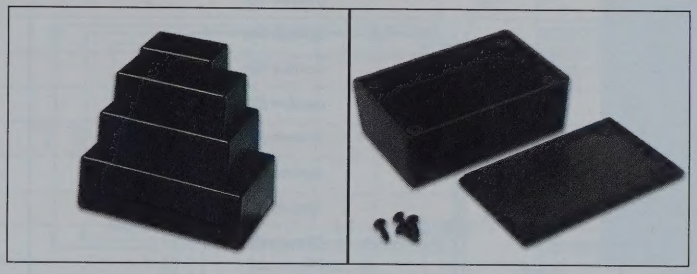
PLASTIC HOUSINGS - WCAH-SERIES

PLASTIC POLYSTYRENE HOUSINGS



part name	dimensions	color
WCAH2507	10.2" x 7.5" x 3.3"	gray

ABS "PLASTIC" ENCLOSURES



SPECIFICATIONS :

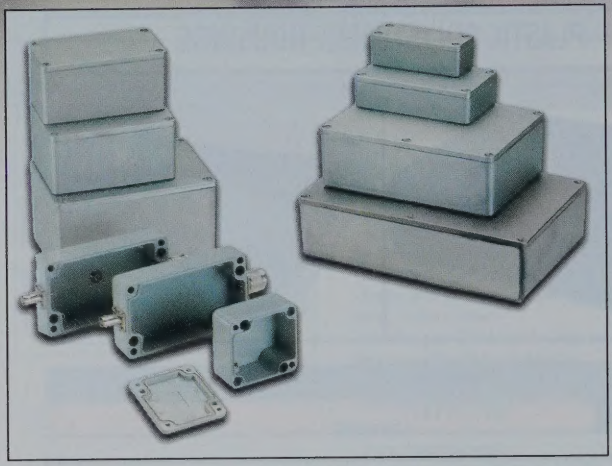
- vertical grooves on the inside to fix PCB's

part name	dimensions	color
WCAH2851	6.3" x 3.7" x 2.2"	black
WCAH2853	5.1" x 2.8" x 1.8"	black
WCAH2855	85 x 55 x 30mm	black

T

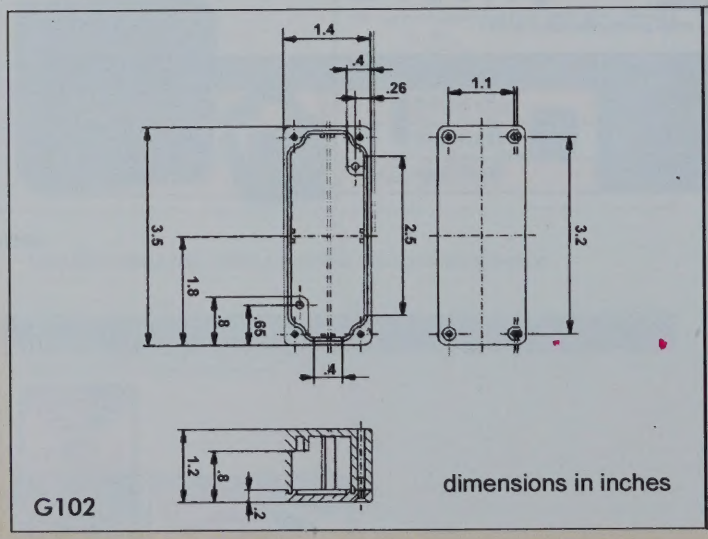
ENCLOSURES - G-SERIES

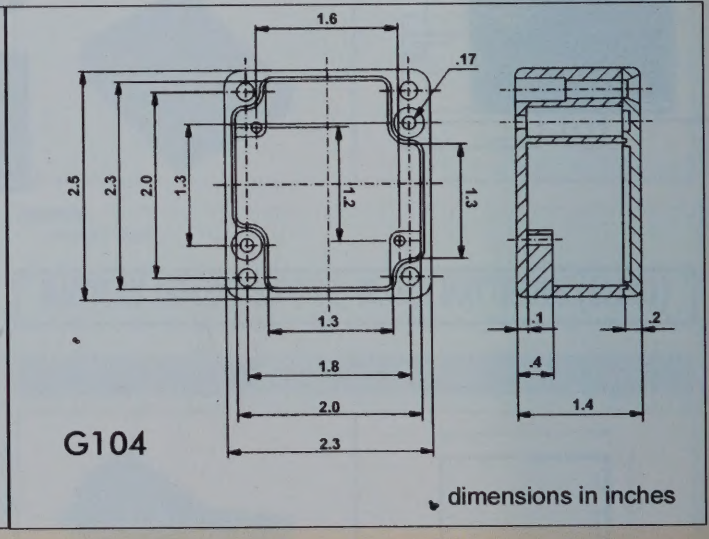
G100-SERIES (SEALED DIE-CAST ALUMINUM ENCLOSURES)



Enclosures for sensitive electronic assemblies and for pneumatic, hydraulic and electrical devices in commercial and industrial environments.
These enclosures provide effective EMI- and RFI-shielding. Designed according to IP65 of IEC529 and NEMA4 (dust and hoseproof).
The mounting holes and the fixing screws for the lid are outside the sealed area, which prevents moisture and dust from entering the enclosure.
The lid incorporates a recessed neoprene gasket.
Bosses on the internal base allow the fixing of PCBs and are suited for an earthing connection, etc...
Internal guide slots allow vertical PCB mounting.
The lid-mounting screw holes are threaded and the screws themselves are captive and recessed.
2 or 4 holes make horizontal PCB mounting possible.

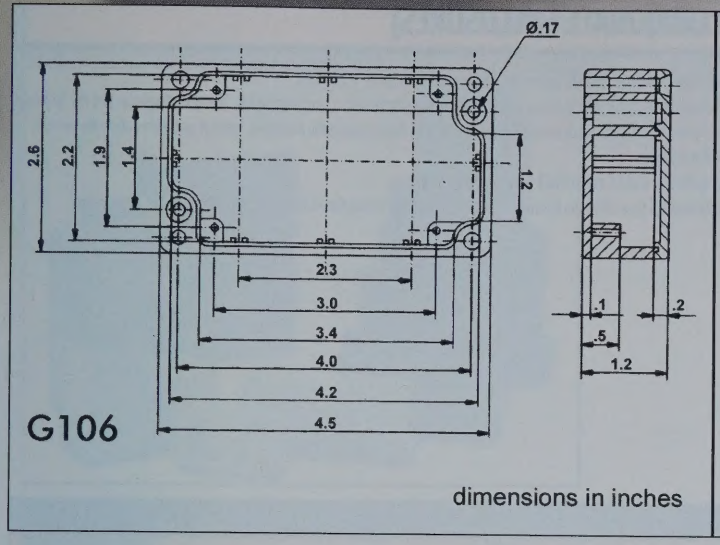
part name	material	dimensions
G102	aluminum alloy	3.5" x 1.4" x 1.2"
G104	aluminum alloy	2.5" x 2.3" x 1.4"
G106	aluminum alloy	4.5" x 2.6" x 1.2"
G111	aluminum alloy	4.5" x 2.6" x 2.2"
G113	aluminum alloy	4.5" x 3.5" x 2.2"
G115	aluminum alloy	5.8" x 4.3" x 3.0"
G1201	aluminum alloy	6.7" x 4.8" x 2.2"
G124	aluminum alloy	8.7" x 5.7" x 2.2"





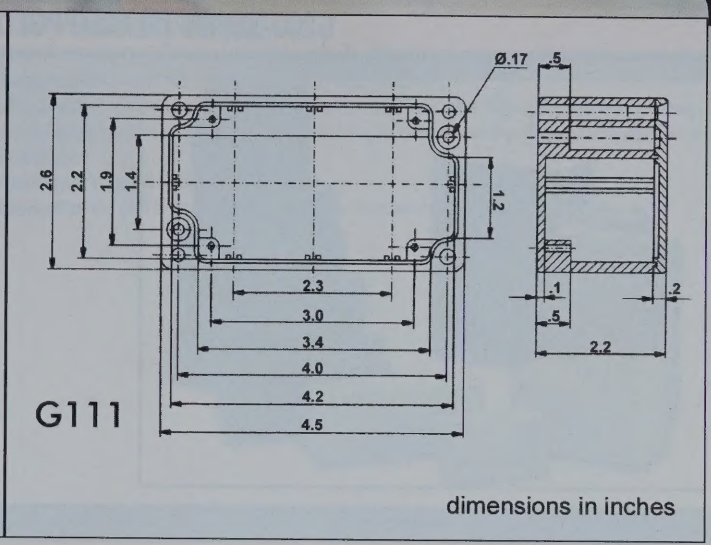
part name	G102	part name	G104

T



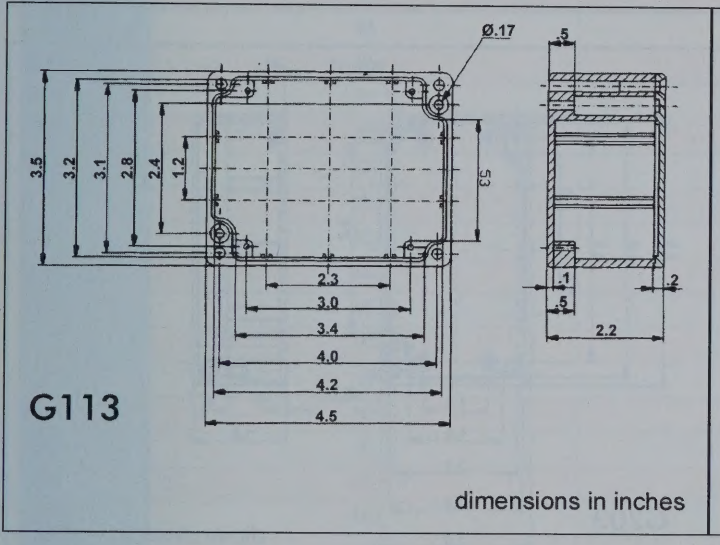
dimensions in inches

part name	G106



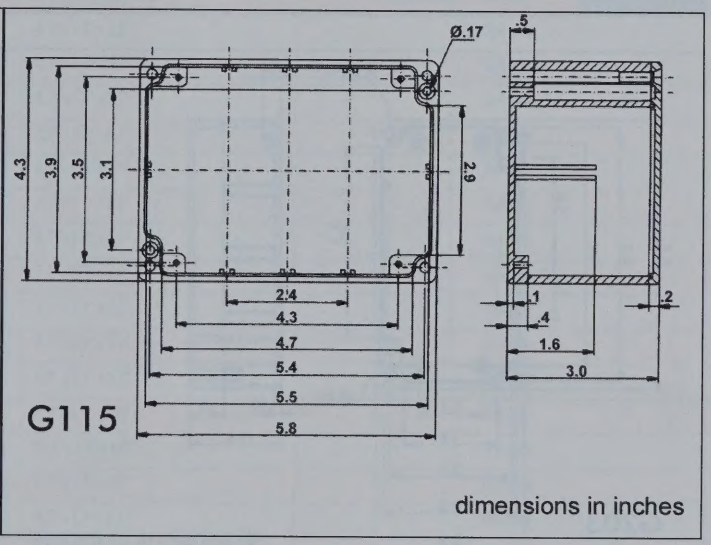
dimensions in inches

part name	G111



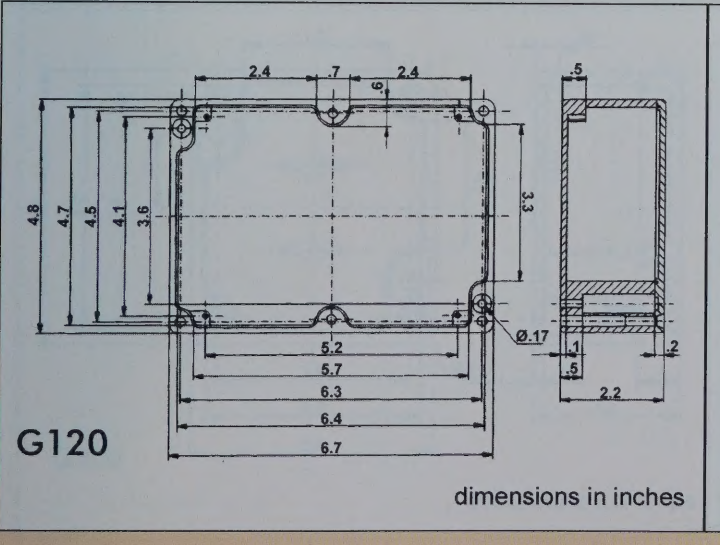
dimensions in inches

part name	G113



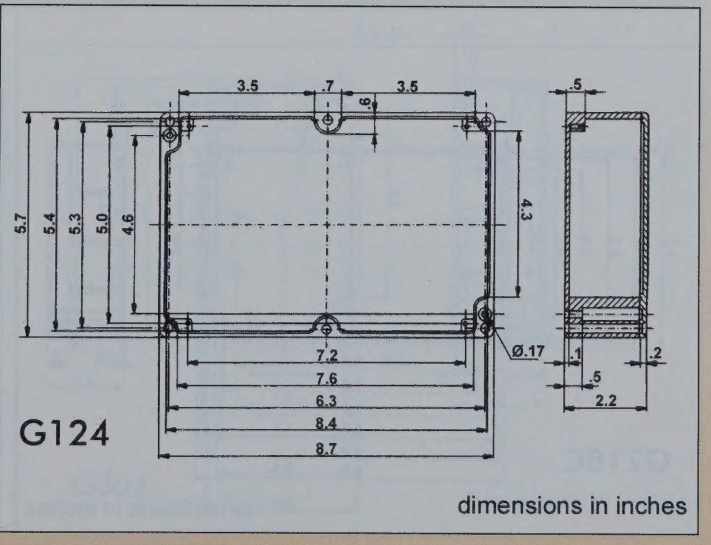
dimensions in inches

part name	G115



dimensions in inches

part name	G1201



dimensions in inches

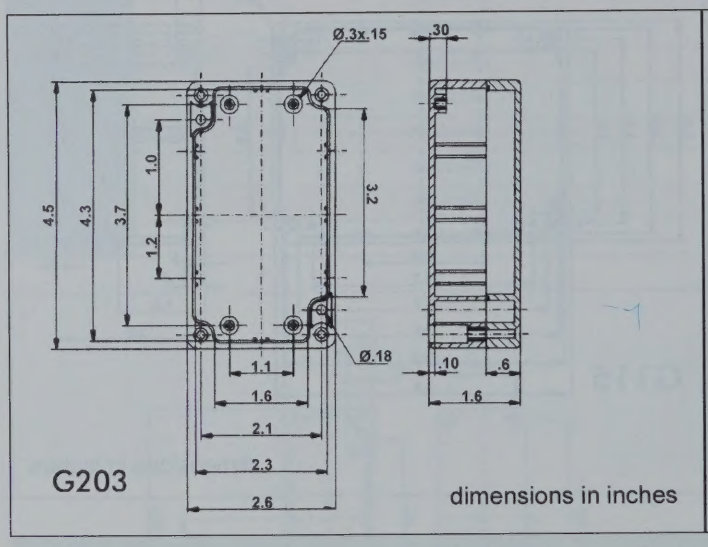
part name	G124

T

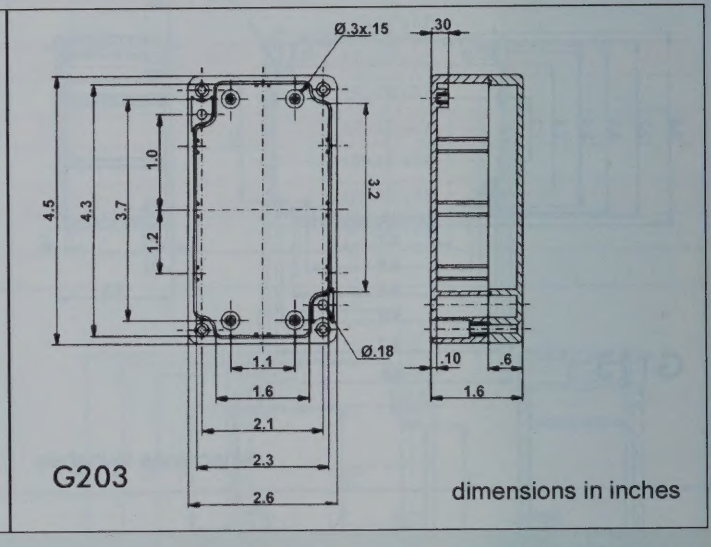
G200-SERIES (SEALED POLYCARBONATE ENCLOSURES)

These enclosures consist of polycarbonate (operating temperature : -40±F to +257±F).
The lid and the base are equipped with a tongue and groove sealing system with a neoprene gasket. The mounting holes and the lid-fixing screws are outside the sealed area, which prevents moisture and dust from entering the enclosure. Internal guide slots allow the vertical mounting of PCB assemblies.
Designed to meet IP65 of IEC529 and NEMA4 (dust- and hoseproof).
The bosses on the internal base allow the horizontal fixing of PCBs or the connection of terminals, etc. with threaded brass inserts.

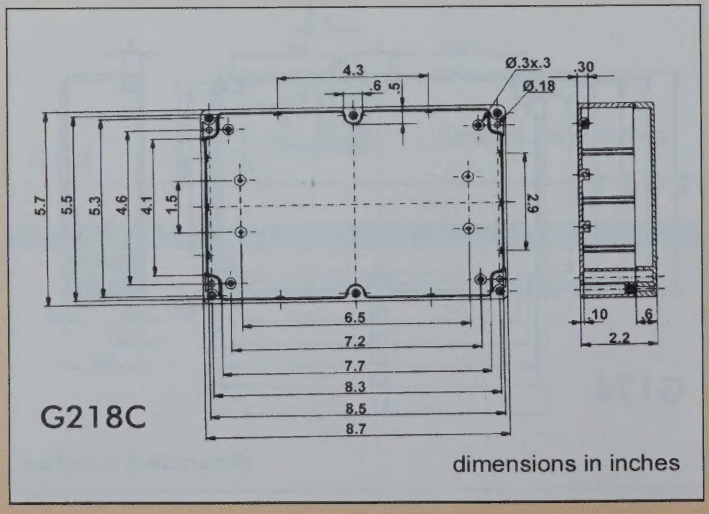
part name	material	dimensions	color	remark
G203	polycarbonate	4.5" x 2.6" x 1.6"	light gray	-
G203C	polycarbonate	4.5" x 2.6" x 1.6"	light gray with clear lid	-
G218C	polycarbonate	8.7" x 5.7" x 2.2"	light gray with clear lid	ideal to be used with the MONZW, B/W monitor



part name G203



part name G203C



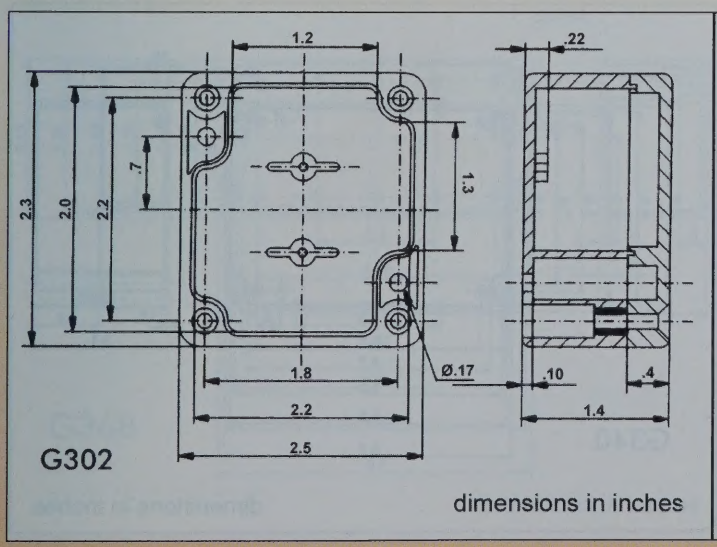
part name G218C

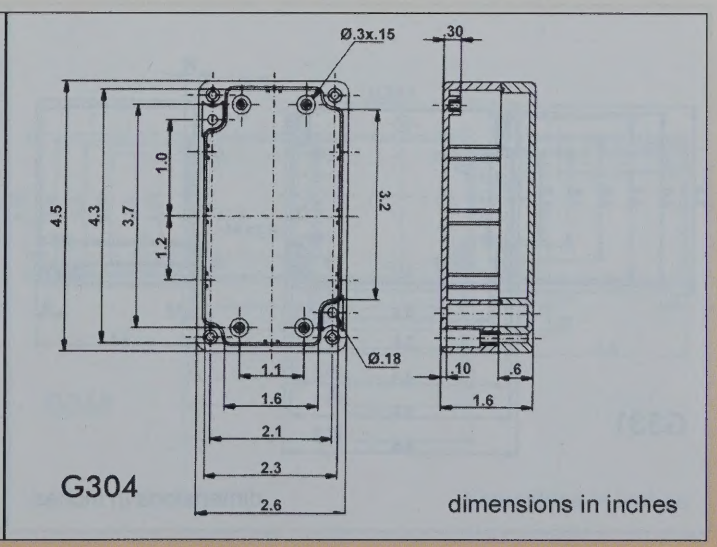
T

G300-SERIES (SEALED ABS ENCLOSURES)

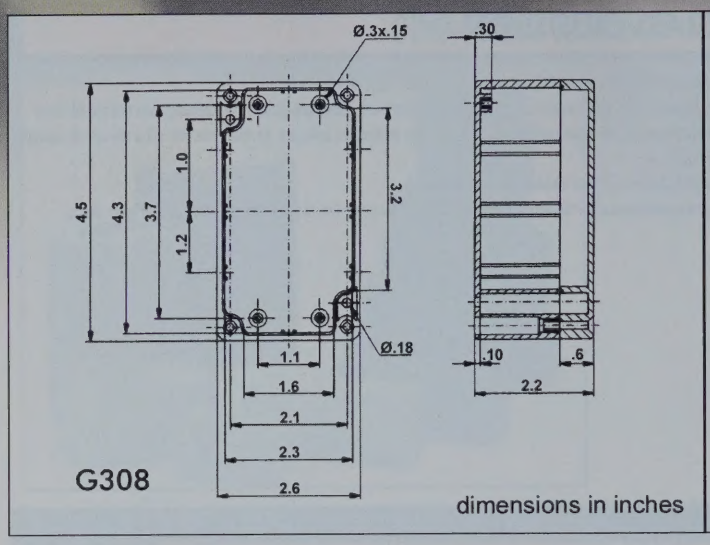
These enclosures consist of high-impact ABS (operating temperature : -4±F to +212±F).
The lid and the base equipped with a tongue and groove sealing system with a neoprene gasket. The mounting holes and the lid-fixing screws are outside the sealed, which prevents moisture and dust from entering the enclosure. Internal guide slots allow the vertical mounting of PCB assemblies.
Designed to meet IP65 of IEC529 and NAMA4 (dust- and hoseproof).
The bosses on the internal base allow the horizontal fixing of PCBs or the connection of terminals, etc. with threaded brass inserts.

part name	material	dimensions	color
G302	ABS	2.5" x 2.3" x 1.4"	dark gray
G304	ABS	4.6" x 2.6" x 1.6"	dark gray
G308	ABS	4.5" x 2.6" x 2.2"	dark gray
G311	ABS	4.5" x 3.5" x 2.2"	dark gray
G313	ABS	6.7" x 4.8" x 2.2"	dark gray
G317	ABS	8.7" x 5.7" x 2.2"	dark gray
G331	ABS	4.5" x 3.5" x 3.1"	dark gray
G340	ABS	6.7" x 4.8" x 3.1"	dark gray
G346	ABS	7.7" x 3.1" x 2.2"	dark gray
G353	ABS	8.7" x 5.7" x 3.0"	dark gray
G362	ABS	2.1" x 2.0" x 1.4"	dark gray
G366	ABS	3.2" x 3.1" x 2.2"	dark gray
G368	ABS	6.3" x 3.1" x 2.2"	dark gray
G369	ABS	6.3" x 3.1" x 3.3"	dark gray
G373	ABS	7.9" x 4.7" x 2.9"	dark gray
G378	ABS	10.4" x 7.3" x 4.0"	dark gray
G386	ABS	4.7" x 4.7" x 2.4"	dark gray
G387	ABS	4.7" x 4.7" x 3.5"	dark gray
G396	ABS	6.3" x 6.3" x 2.4"	dark gray
G399	ABS	6.3" x 6.3" x 3.5"	dark gray

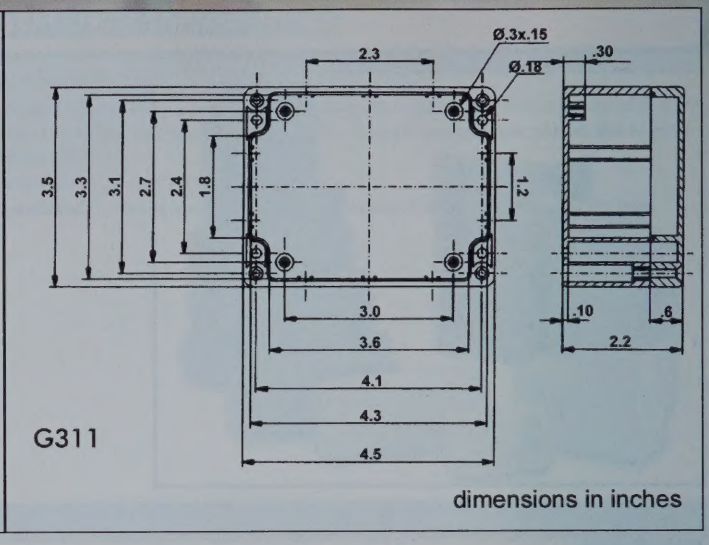




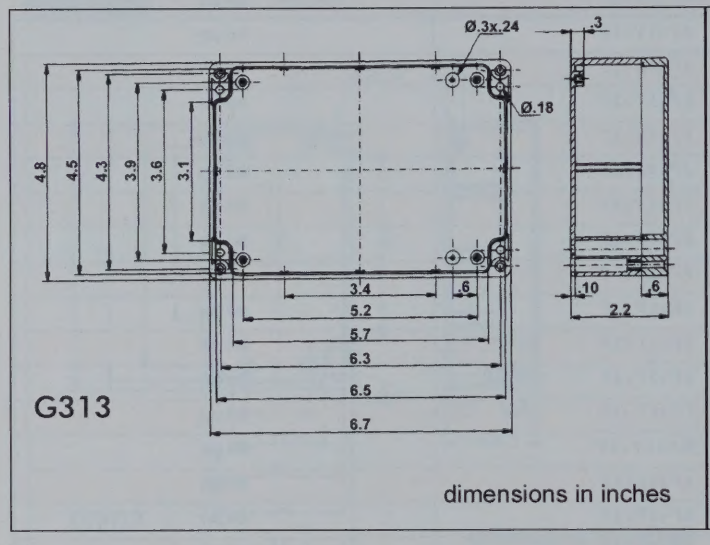
part name	G302	part name	G304



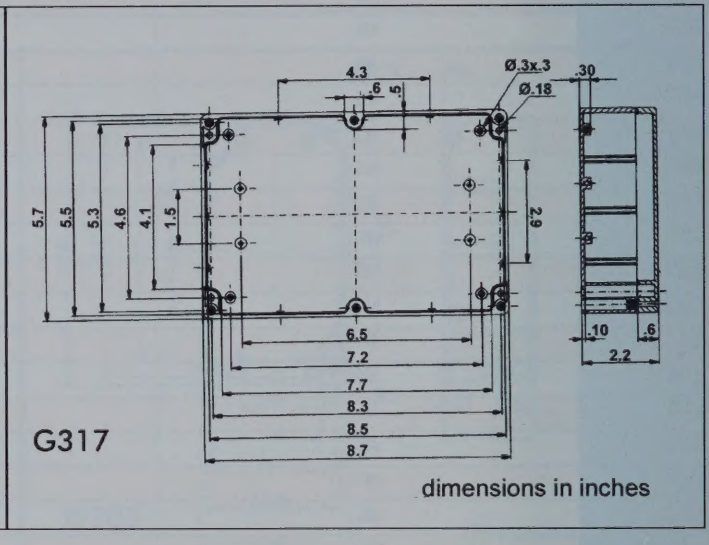
part name G308



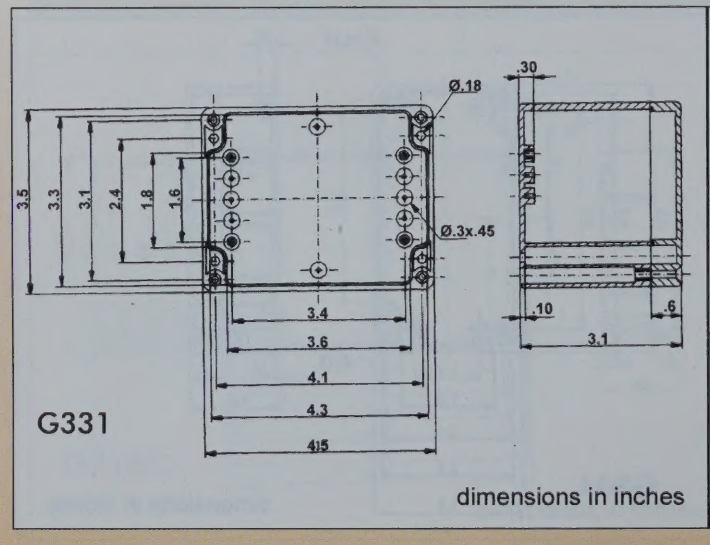
part name G311



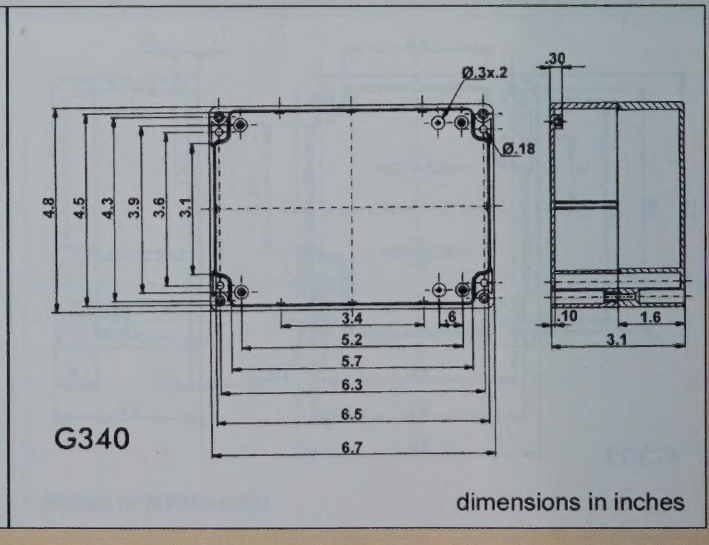
part name G313



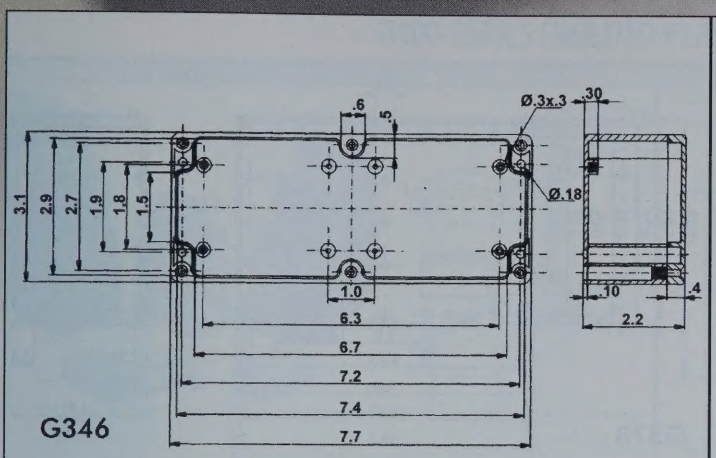
part name G317



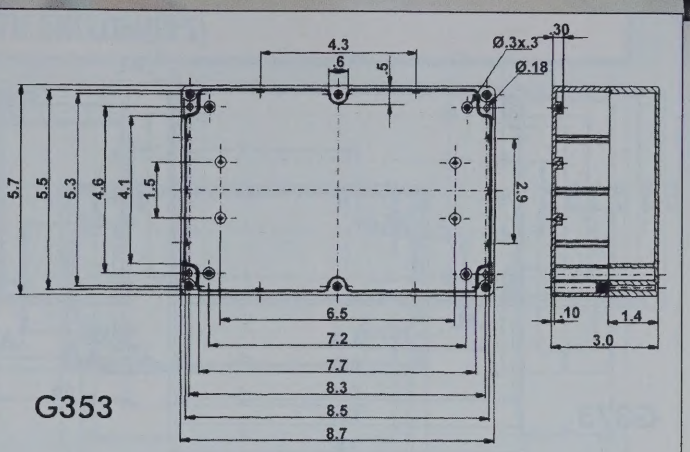
part name G331



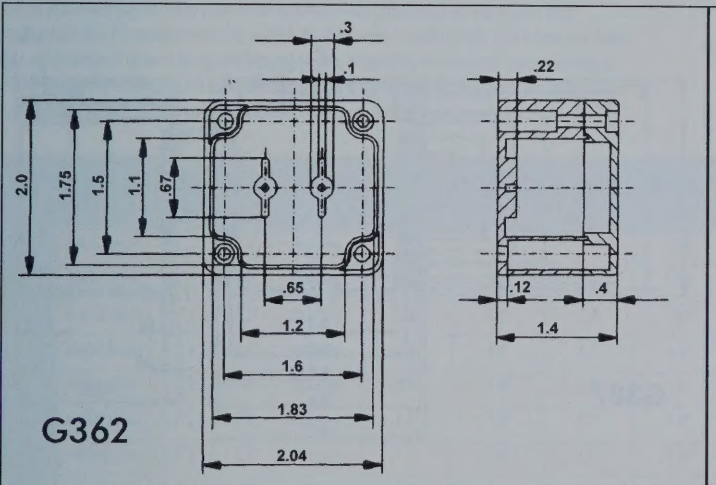
part name G340



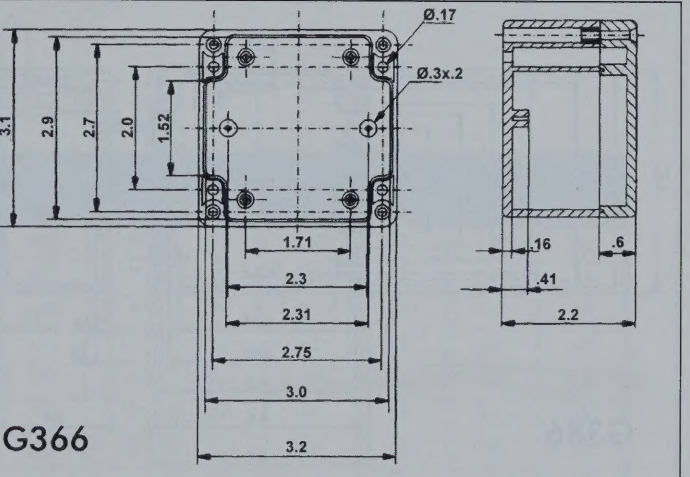
part name G346



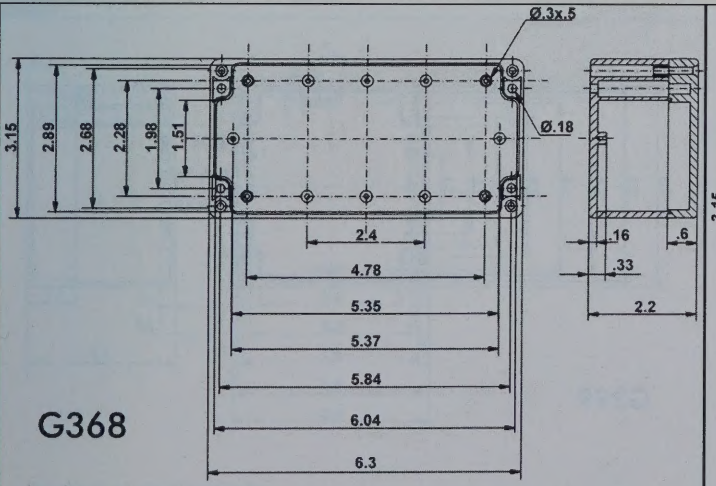
part name G353



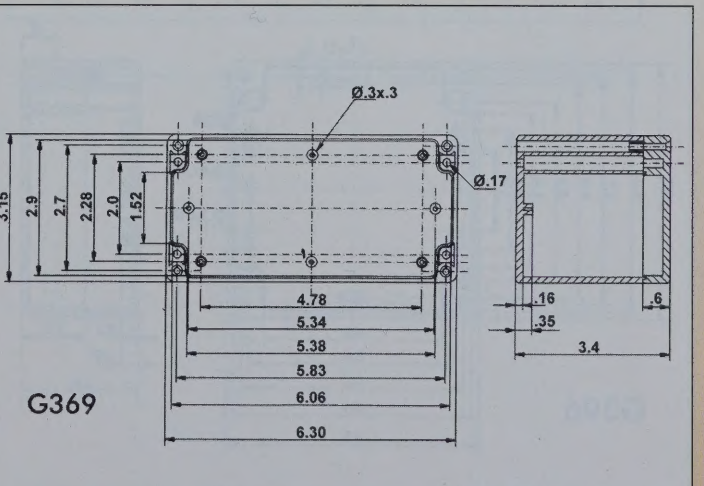
part name G362



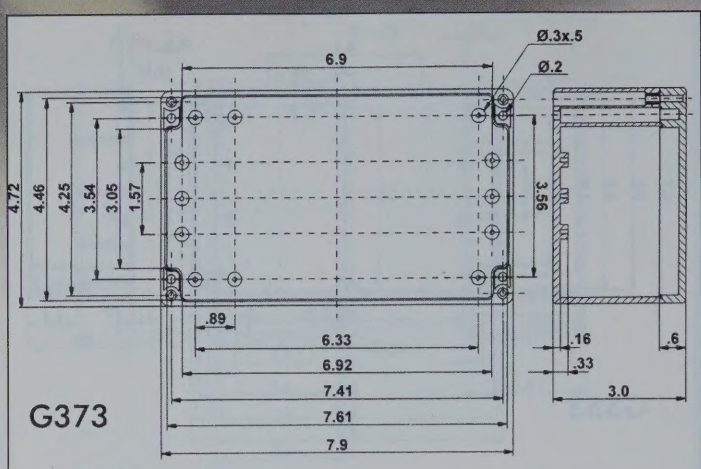
part name G366

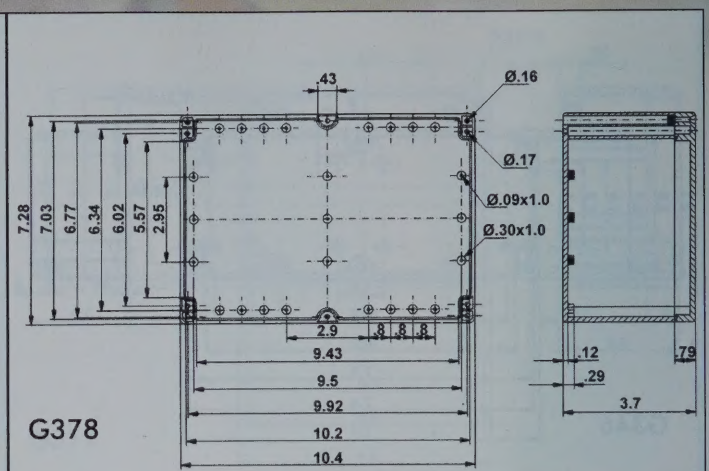


part name G368

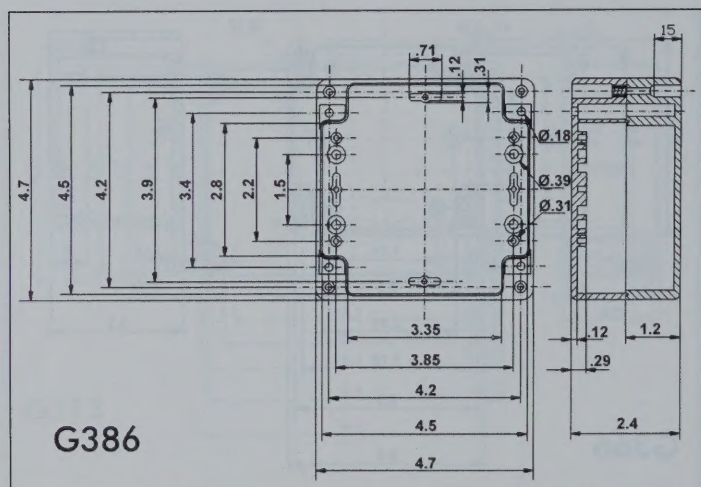


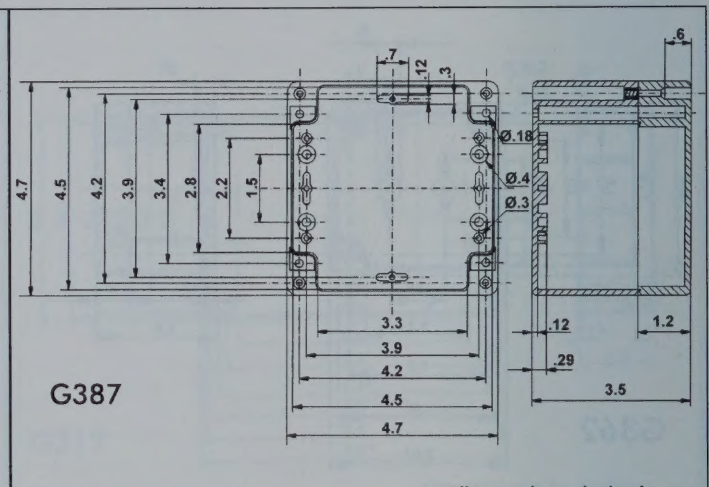
part name G369



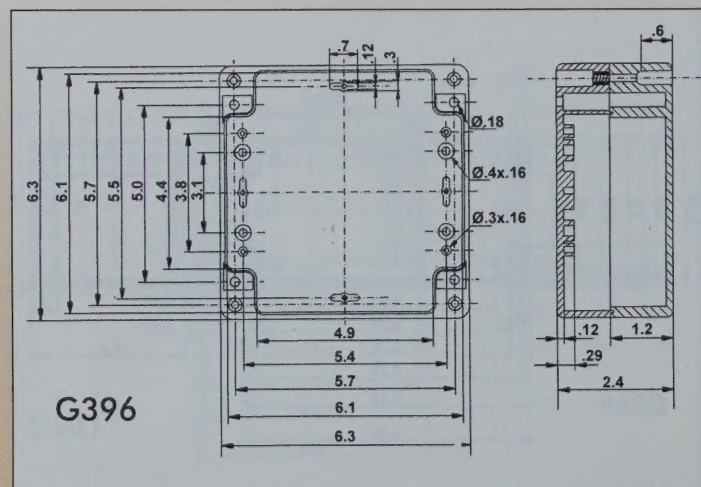


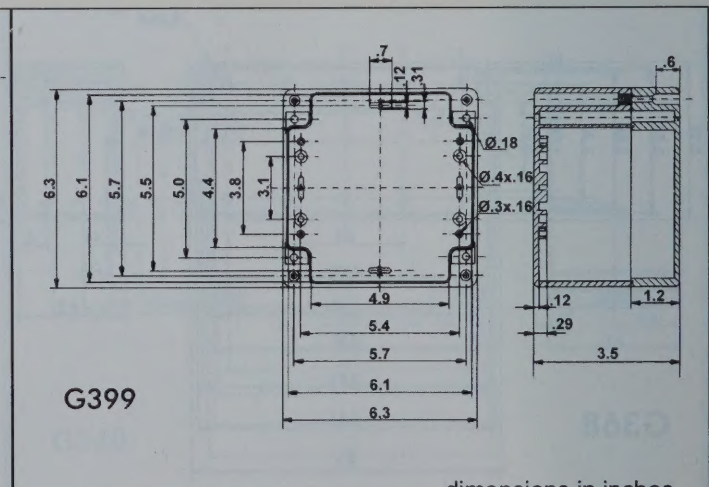
part name	G373	part name	G378





part name	G386	part name	G387

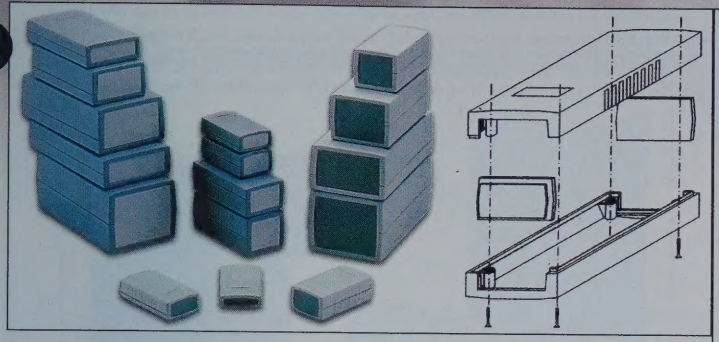


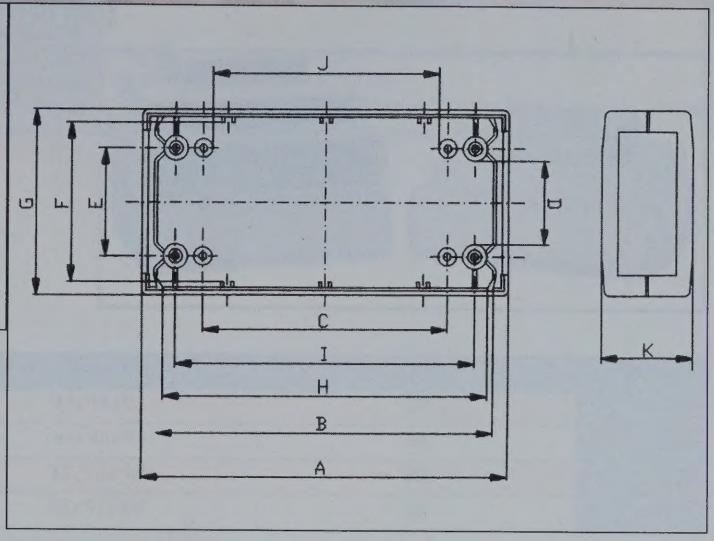


part name	G396	part name	G399

T

G400-SERIES (MOLDED PLASTIC ENCLOSURES)



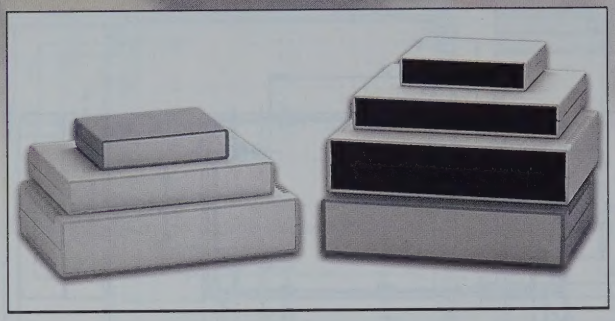


Ideally suited for instrumentation and telecommunication equipment, from hand-held to lab and desktop sizes. Molded in high-impact ABS, fire-retardant according to UL94-VO. These cases in molded plastic have a two-piece design with a tongue and groove joint between the top and bottom half. This design offers environmental sealing according to IP54 of IEC529. The top and bottom case are lightly relieved, creating a non-scratch surface with a high-quality finish. Guide slots are provided for vertical PCB mounting and bosses make horizontal PCB mounting possible.

part name	material	dimensions	color	dimensions										
				A	B	C	D	E	F	G	H	I	J	K
G401	molded plastic	3.5" x 2.2" x 0.6"	dark gray	3.5"	3.3"	2.0"	1.08"	1.4"	1.59"	2.0"	3.13"	2.7"	1.67"	0.6"
G403	molded plastic	3.5" x 2.0" x 0.9"	dark gray	3.5"	3.3"	2.0"	1.08"	1.4"	1.59"	2.0"	3.13"	2.7"	1.67"	0.9
G404	molded plastic	3.5" x 2.0" x 1.3"	dark gray	3.5"	3.3"	2.0"	1.08"	1.4"	1.59"	2.0"	3.1"	2.7"	1.67"	1.3"
G407	molded plastic	4.7" x 2.4" x 1.2"	dark gray	4.7"	4.4"	3.1"	1.0"	1.4"	1.7"	2.4"	4.3"	3.9"	2.8"	1.2"
G410	molded plastic	4.7" x 2.4" x 1.6"	dark gray	4.7"	4.4"	3.2"	1.0"	1.4"	1.7"	2.4"	4.3"	3.9"	2.8"	1.6"
G412	molded plastic	4.7" x 2.4" x 2.0"	dark gray	4.7"	4.4"	3.1"	1.0"	1.4"	1.7"	2.4"	4.3"	3.9"	2.8"	2.0"
G413	molded plastic	5.9" x 3.1" x 1.2"	dark gray	5.9"	5.4"	4.3"	1.8"	2.2"	2.5"	3.1"	5.4"	5.0"	3.9"	1.2"
G416	molded plastic	5.9" x 3.1" x 1.8"	dark gray	5.9"	5.4"	4.3"	1.8"	2.2"	2.5"	3.1"	5.4"	5.0"	3.9"	1.8"
G418	molded plastic	5.9" x 3.1" x 2.4"	dark gray	5.9"	5.4"	4.3"	1.8"	2.2"	2.5"	3.1"	5.4"	5.0"	3.9"	2.4"
G421	molded plastic	7.5" x 3.9" x 1.6"	dark gray	7.5"	7.1"	5.9"	2.6"	3.0"	3.3"	3.9"	6.9"	6.6"	5.5"	1.6"
G422	molded plastic	7.5" x 3.9" x 2.4"	dark gray	7.5"	7.1"	5.9"	2.6"	3.0"	3.3"	3.9"	6.9"	6.6"	5.5"	2.4"
G425	molded plastic	7.5" x 3.9" x 3.1"	dark gray	7.5"	7.1"	5,9"	2.6"	3.0"	3.3"	3.9"	6.9"	6.6"	5.5"	3.1"

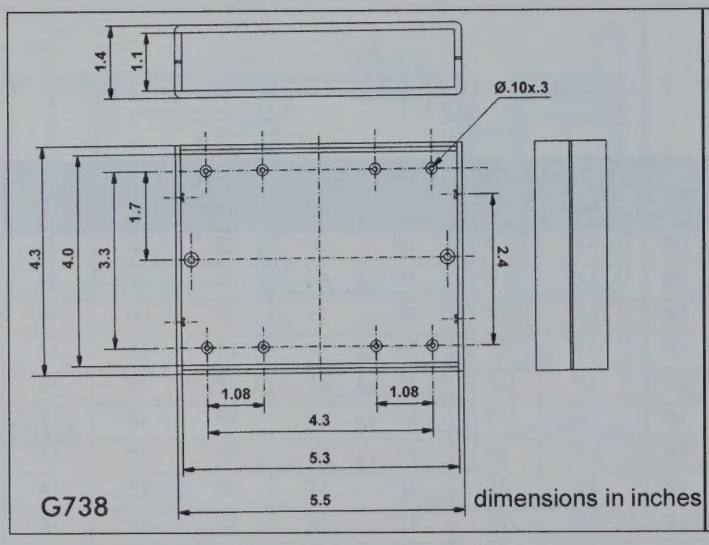
T

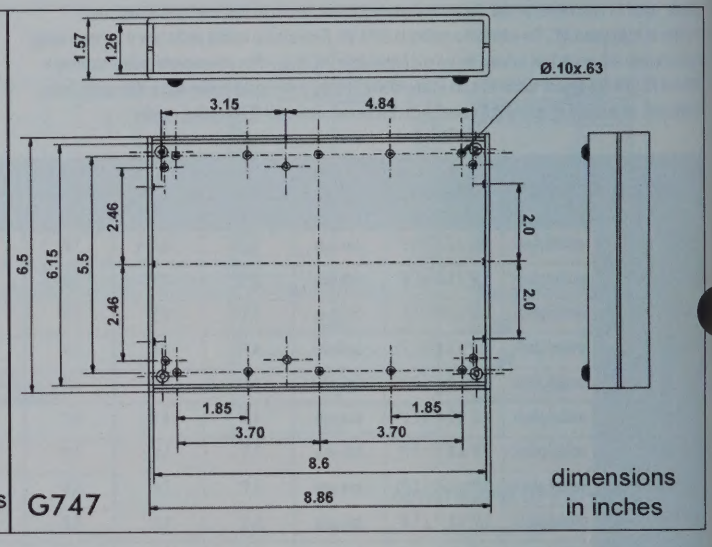
G700-SERIES (FIRE-RETARDANT INSTRUMENTAL ENCLOSURES)



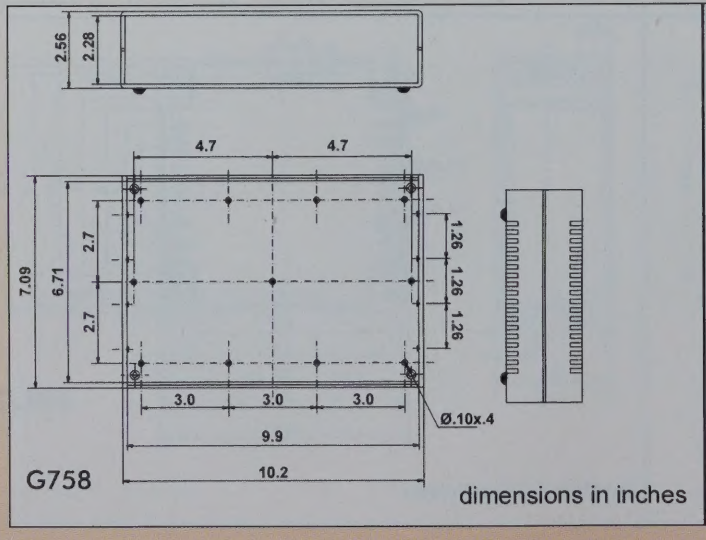
Ideally suited for instrumentation and telecommunication equipment. Molded in high-impact ABS, these plastic cases have a two-piece design with a tongue and groove joint between the top and bottom half. The ABS end panels were specially designed .
The two halves are slightly relieved, creating a non-scratch surface with a high-quality finish. Guide slots are provided for vertical PCB mounting. Bosses enable the user to firmly secure the lid and the end panels. The G700-series is fitted with four rubber feet except for with the G738.

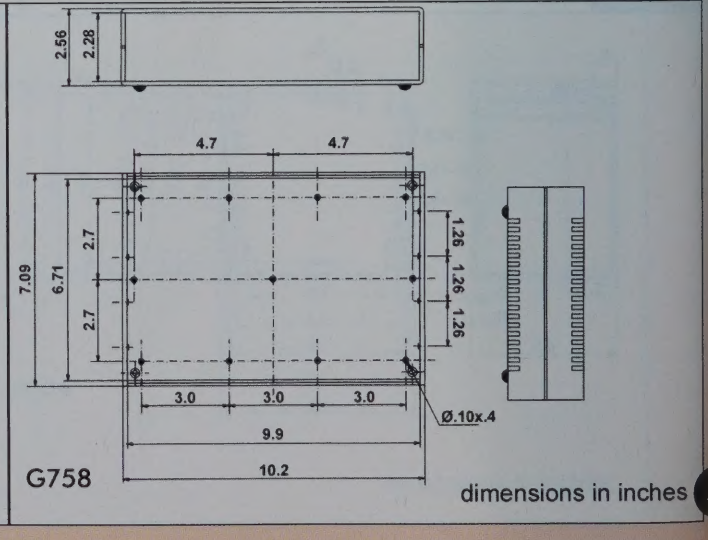
part name	material	dimensions	color	remark
G738	ABS	5.5" x 4.3" x 1.4"	light gray top with black end panels	-
G747	ABS	8.9" x 6.5" x 1.6"	light gray top with black end panels	-
G758	ABS	10.2" x 7.1" x 2.6"	light gray top with black end panels	-
G758V	ABS	10.2" x 7.1" x 2.6"	light gray top with black end panels	with venting holes





part name	G738	part name	G747





part name	G758	part name	G758V

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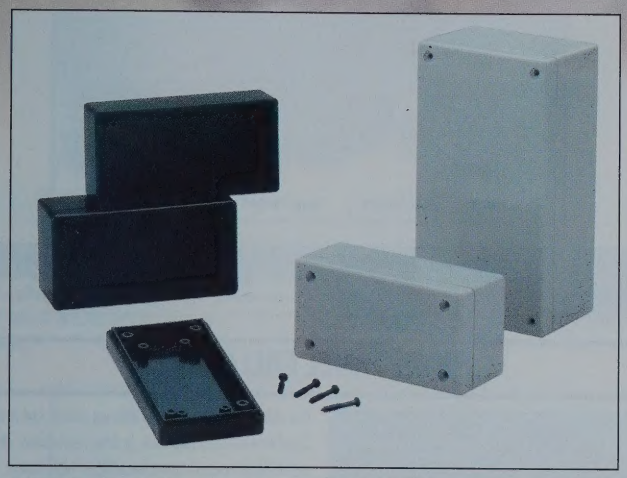
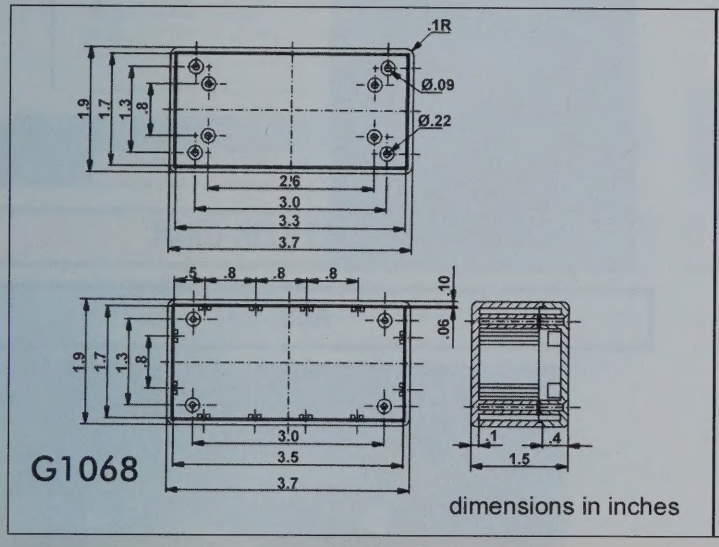
G1000 - SERIES

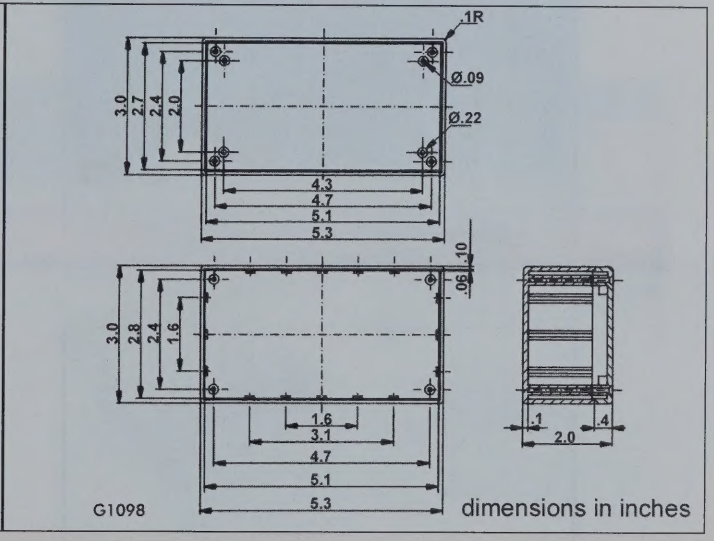
UTILIBOX



This plastic utility box is more than good value and is available in 2 sizes.
It is molded in impact-resistant ABS and has card guides spaced at intervals of 7.9" to allow flexibility in the spacing of the components or the creation of compartments. The guides will accept cards with a max. thickness of 0.06".

part name	material	dimensions	color
G1068	ABS	3.7" x 1.9" x 1.5"	gray
G1098	ABS	5.4" x 3.0" x 2.0"	gray

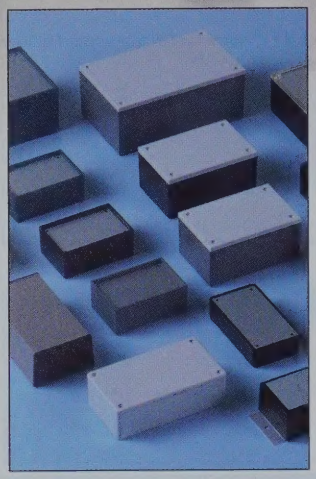




part name	G1068	part name	G1098

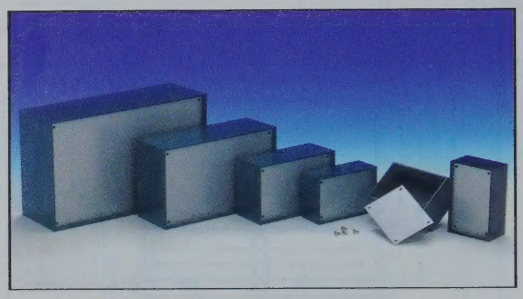
ENCLOSURES TEKO-SERIES

TOP COVER ENCLOSURES

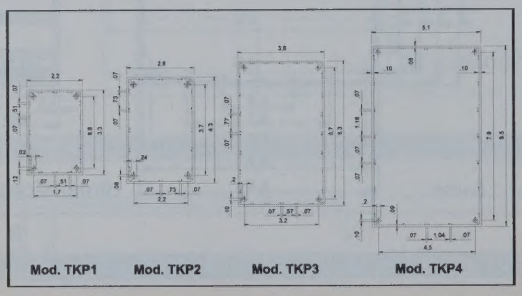


The top cover range offers a practical, economical packaging solution for small or medium-sized electronic devices or circuitry. The design permits easy machining and the top panel is well suited for the installation of meters, readouts, etc. Mounting PCB's is easy thanks to the integral PCB guides on the inside. The enclosures are made of ABS or polystyrene with either aluminium or plastic panels.

OPTATIVE

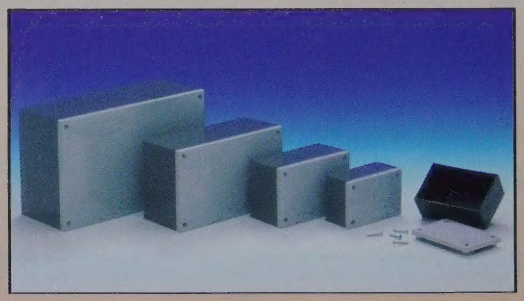


ABS enclosure with square corners and a 1mm aluminium panel. Glossy surface finish. Lid and housing are joined with four screws.

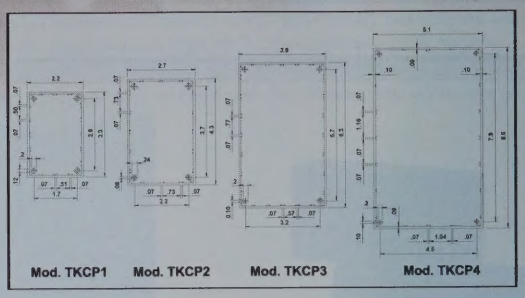


part name	material	dimensions	color	weight
TKP3B	ABS and aluminum	6.3" x 3.8" x 2.4"	petrol blue	5.4oz
TKP4B	ABS and aluminum	8.5" x 5.1" x 3.0"	petrol blue	9.7oz

COVER



Two-tone ABS enclosure. The cover is always executed in light grey and has four integral PCB mounting studs. Glossy surface finish. The cover is fixed with four screws.

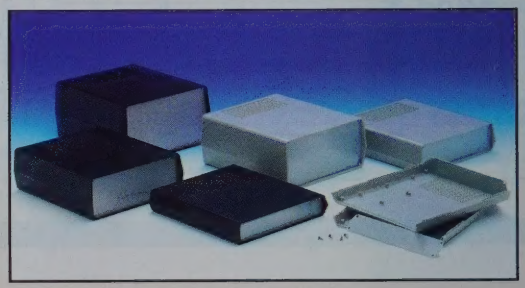


part name	material	dimensions	color	weight
TKCP3G	ABS	6.3" x 3.8" x 2.63"	dark gray with light gray panel	5.7oz

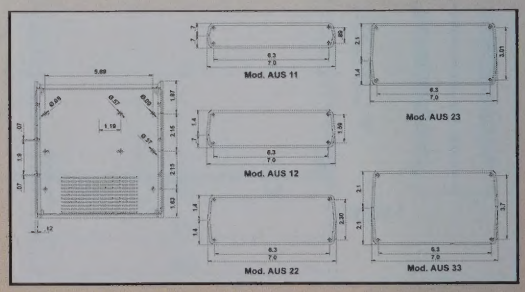
FRONT PANEL ENCLOSURES

This series comprises over fifty different models and is ideally suited to a variety of electronic desktop applications. The enclosures are manufactured from ABS or high-impact polystyrene and are available with a front panel in either aluminium or plastic.

AUS



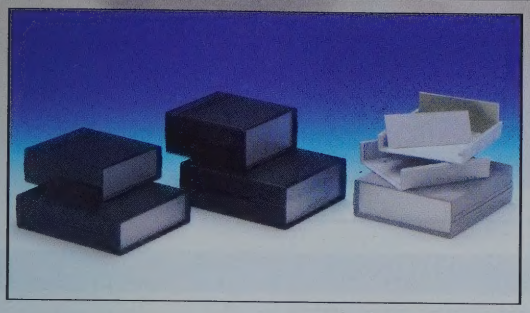
A polystyrene enclosure with a vented cover and base. Front and rear panels in 1mm-thick aluminium. Each half shell has integral PCB guides and mounting studs. Matt surface finish. Eight screws close the housing.



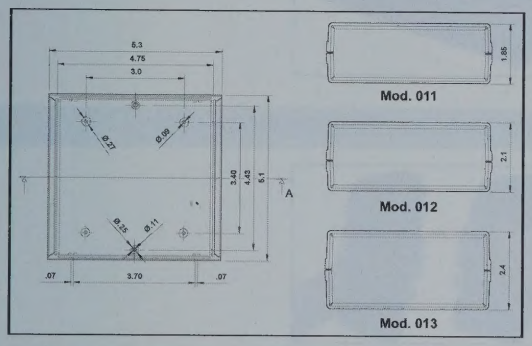
part name	material	dimensions	color	weight
TKAUS12G	ABS + aluminum	7.80 x 7.01 x 2.13"	gray	10.0oz
TKAUS23G	ABS + aluminum	7.80" x 7.01" x 3.54"	gray	12.5oz

T

CAB.0 ENCLOSURES

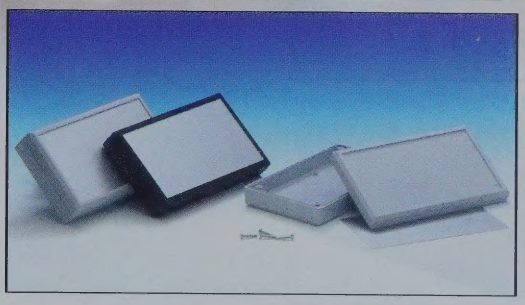


Enclosures for all electronic workbench equipment including feeders, generators and counters. Fitted with antiskid feet. Only two mounting screws are required (incl.). These enclosures were specifically designed for housing stackable printed circuits, vertical modules and cards. Constructed in high-impact ABS with a non-reflecting surface finish. Front panels in aluminium.

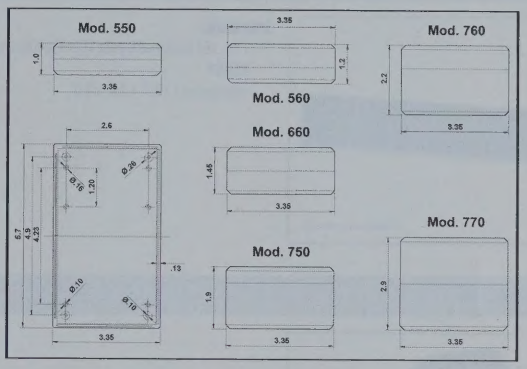


part name	material	dimensions	color	weight
TK012B	ABS	5.28" x 5.08" x 2.13"	black	6.6oz

TENCLOS



ABS enclosure with a recessed area for a 0.5mm anodised aluminium panel. Base and cover are equipped with integral PCB mounting studs. Matt surface finish. The two halves are joined with four screws.

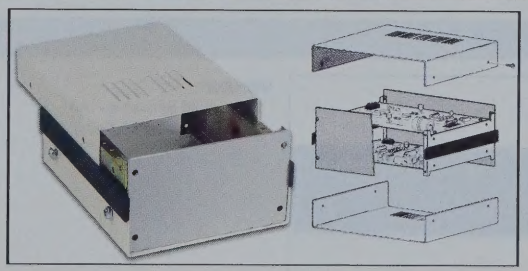


part name	material	dimensions	color	weight
TK760B	ABS	5.71" x 3.35" x 2.17"	black	5.0oz
TK770B	ABS	5.71" x 3.35" x 2.87"	black	6.0oz

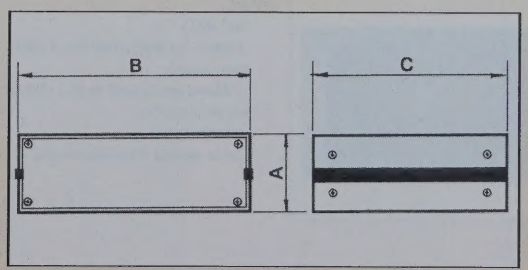
HAND-HELD ENCLOSURES

These attractively styled enclosures were especially designed for "hand-held" instruments. The cases are in scratch-resistant ABS. The case parts are joined using 2/4 self-tapping screws. The enclosures have a recessed area suitable for membrane keyboards or aluminium panels.

SECTIONAL METAL ENCLOSURES



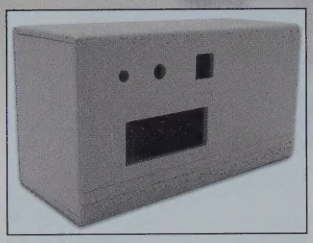
These ivory white boxes consist of sheet steel 10/10, dust-threaded at 356±F. The front and back panels are in aluminum 15/10 and are covered by a protective and translucent PVC film. The covers should be removed prior to use. The side panels and the top panel are made in one piece and can be removed. This enables the user to inspect the circuits mounted on the inside without having to disassemble the entire box.



part name	dimensions (A x B x C)
L750	3.1" x 7.9" x 5.2"

SPECIAL SERIES FOR VELLEMAN KITS

PLASTIC HOUSING FOR K2649 — B2649

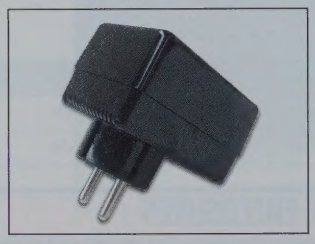


SPECIFICATIONS :
- for : K2649

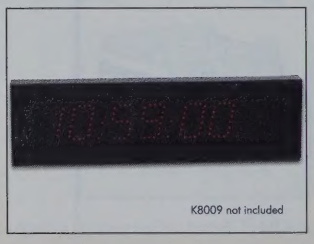
PLASTIC HOUSING FOR K5600G OR K5600R — B5600

SPECIFICATIONS :
- for : LED display with green LEDs K5600G or red LEDs K5600R
- dimensions : 19.0" x 3.4" x 1.0"

ADAPTER HOUSING — B6713



PLASTIC HOUSING FOR K8009 — B8009



SPECIFICATIONS :
- for : K8009 Multifunctional Clock
- dimensions : 12.3" x 3.3" x 1.0"

BEZEL ENCLOSURE FOR K8035 — B8035

FEATURES :
- for : K8035
- contains : box, bezel, printed front, 4 buttons, 8 fixation screws, manual
- 3 different ways to install the bezel : flush with wall, upon wall, panel mounting
- attractive design
- can be resprayed in your favourite color

BEZEL ENCLOSURE FOR K8045 — B8045

FEATURES :
- for : K8045
- contains : box, bezel, printed front, 4 buttons, 8 fixation screws and a manual
- 3 different installation methods : flush with wall, upon wall, panel mounting
- attractive design
- can be resprayed in your favourite color

BAG FOR MEASUREMENT INSTRUMENT — BAG13X24

SPECIFICATIONS :
- material : nylon
- color : black
- dimensions : 5.3" x 9.4" x 2.0"

LEATHER CARRYING BAG FOR PORTABLE VELLEMAN OSCILLOSCOPES — BAGHPS

CARRYING CASE FOR HPS-SERIES — CASEHPS

GENERAL INSTRUMENT BAG — GIB

SPECIFICATIONS :
- color : cyan
- dimensions : 9.4" x 7.1" x 2.0"

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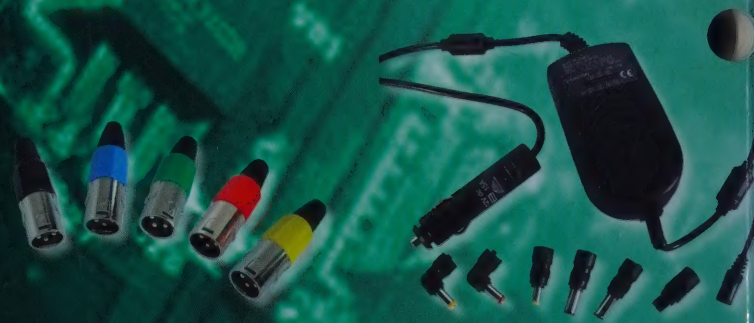

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